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Agricultural Finance Outlook

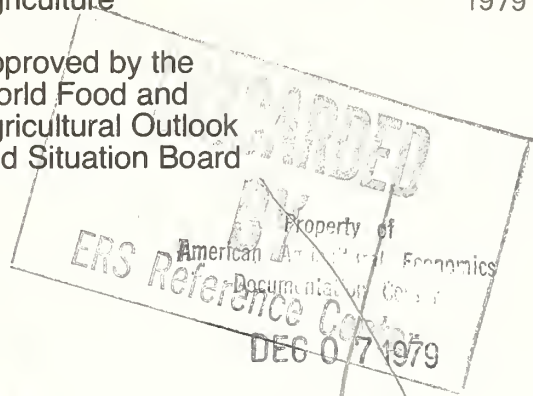
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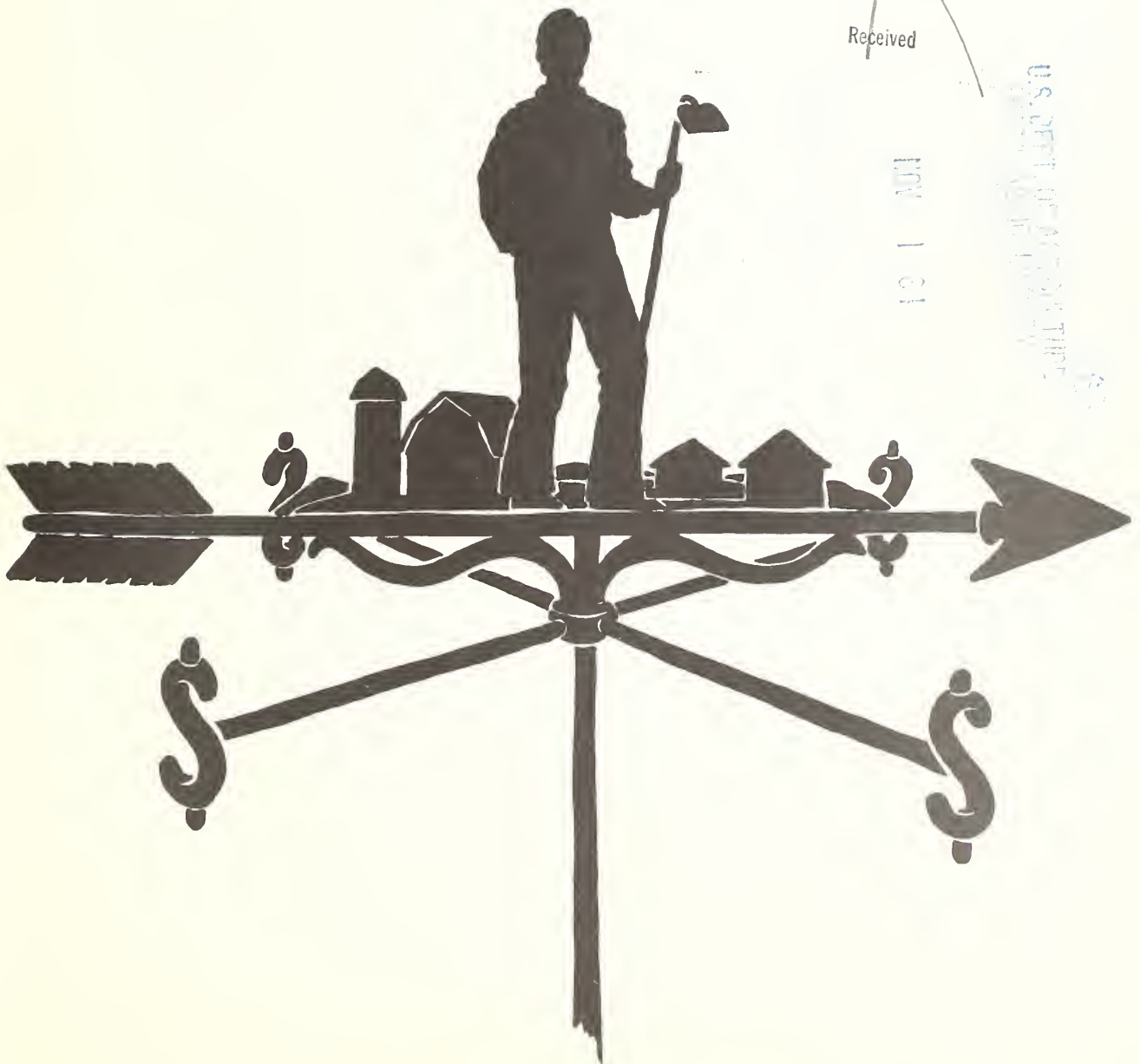
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Many persons provided help in collecting the survey data and other information in this report. These included employees of commercial banks, the American Bankers Association, and of life insurance companies, economists of the Federal Reserve System, State Directors and other employees of the Farmers Home Administration, presidents and other employees of the Federal Land Banks and the Federal Intermediate Credit Banks, employees of the Farm Credit Administration and the Extension Service, and officials of the credit corporations of farm machinery manufacturing companies.

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AGRICULTURAL FINANCE OUTLOOK

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SUMMARY

The financial condition of the Nation's farmers has shown record improvement this year, but a leveling may occur next year.

Both farm income and asset values have increased during 1979, asset values by a record amount. Debt growth has been moderate, and the likelihood of farm loans being repaid on schedule continues high.

Net farm income for 1979 is expected to total \$30 to \$32 billion, some \$2 to \$4 billion above 1978. Cash receipts from sales of a record crop and near-record livestock production in 1979 are increasing by more than \$16 billion, while production expenses will be up about \$15 billion. Off-farm income in 1979 is estimated at \$36 billion, about \$2 billion more than in 1978.

In 1980, net farm income could decline sharply. Although any forecast at this time is very tentative, small gains in gross farm receipts coupled with another big rise in production expenses could mean a substantial decline in net income—perhaps by a fifth. Off-farm income may be slightly higher but not nearly enough to offset any significant drop in farm income. However, asset values are also likely to show some gain. Taking into account farm and off-farm income prospects, as well as the expected increase in farm equities, the uptrend in the overall financial condition of the farming sector may be interrupted in 1980.

A major strengthening factor supporting farm income in 1979 has been the relatively strong crop prices, even in the face of record production. This has largely been the result of the continuing growth in exports of farm products. Exports over the last several years have taken an increasing share of the Nation's farm output. The uptrend has been strengthened in 1979 by smaller crop production in some foreign countries.

Another factor improving farm income has been the turn in the cattle cycle toward herd rebuilding. The resulting reduction in beef slaughter led to higher beef prices. The first half of 1979 was also favorable for hog and poultry producers, but output increased so much in the second half that prices declined sharply. Livestock prices, particularly for hogs and poultry, are expected to continue under pressure in 1980.

Farmland values rose 14 percent during the 12 months ending February 1, 1979. They are expected to rise some 16 percent this year, but much less in 1980. Prospects for 1980 are, of course less certain, but farm real estate value increases will be slowed appreciably if farm income declines sharply as expected.

The purchase of farm real estate in recent years has become appealing to more and more investors. Gains in farm real estate values have surpassed those of common stocks and of many other investments. However, even with greater interest from nonfarm investors, farm enlargement accounts for an increasing proportion of farmland purchases—about three-fifths of the total. These farm-operator buyers typically are able to handle the cash needs of the purchase, even during the difficult early years when net income from the property purchased is frequently less than carrying charges. Higher interest costs on loans are increasing the carrying charges.

Partly reflecting the sharp gains in land prices, owners of farmland have been reluctant to sell. Transfer rates declined in 1977-78 and 1978-79.

Appreciation in the value of farm real estate has been the principal component of the capital gains and of the improved equities of farm property owners. Capital gains over recent years have far outdistanced farm income in adding to the wealth of farmers. The gains have been widely spread among owners of the various types of farms.

The estimated increase of about 15 percent in farm debt in 1979 will be similar to the moderate increases of 1978 and 1977. The rates of increase for real estate and nonreal estate debt in 1979 were similar. Outstanding Commodity Credit Corporation price support loans are declining considerably. There has been further substantial growth in loans of the Farmers Home Administration. In general, loan repayment problems in 1979 have been minimal. Reflecting national and international money influences, interest rates on farm loans rose to record highs in 1979 and are expected to continue high into 1980.

According to a nationwide survey of lenders in August and September, loan funds appeared to be available in adequate amounts, although banks were expanding their farm loans more slowly than some other lenders. Despite the general tightening in the availability of loan funds and the higher interest rates, loan supplies are expected to continue to be generally adequate during 1980. The amount of money that farmers borrow is not expected to be affected very much by the higher interest rates.

1980 BALANCE SHEET OF THE FARMING SECTOR

On January 1, 1980, the value of farm assets is expected to total \$950.0 billion, \$129.8 billion or 16 percent more than at the beginning of 1979 (table 1 and figure 1). As usual, farm real estate will account for the bulk of the gain, in this case \$96.5 billion, or 74 percent.

Farm real estate value is expected to show an increase during 1979 of about 16 percent, a slightly faster rate than occurred during 1978. The value of physical assets other than real estate is estimated to total about \$213.5 billion on January 1, 1980, with the \$31.3-billion increase since last January about equaling the value added during 1978. This year's record rise in the value of machinery and motor vehicles is accounting for most of this growth. Financial assets are expected to be up about 5 percent by next January 1, a rate of increase comparable to those of the last several years.

Total farm debt is expected to reach \$157.8 billion by January 1980. The prospective \$20.3-billion increase over January 1, 1979 would surpass by \$2 billion the 1978 increase. However, the 14-percent increase during 1979 will be slightly below the 16-percent rate of growth in farm debt in 1978.

The slowdown in the accumulation of debt can be traced to a slightly lower growth rate in nonreal estate bank loans to farmers and to a reduction in Commodity Credit Corporation (CCC) loans outstanding. Increased loan activity, mostly in emergency loans by the Farmers Home Administration (FmHA) and a significant increase in production credit association (PCA) loans had a somewhat offsetting effect. Farm real estate debt is expected to show an increase of about 15 percent for 1979, and nonreal estate farm debt, excluding CCC loans, will be up about 17 percent.

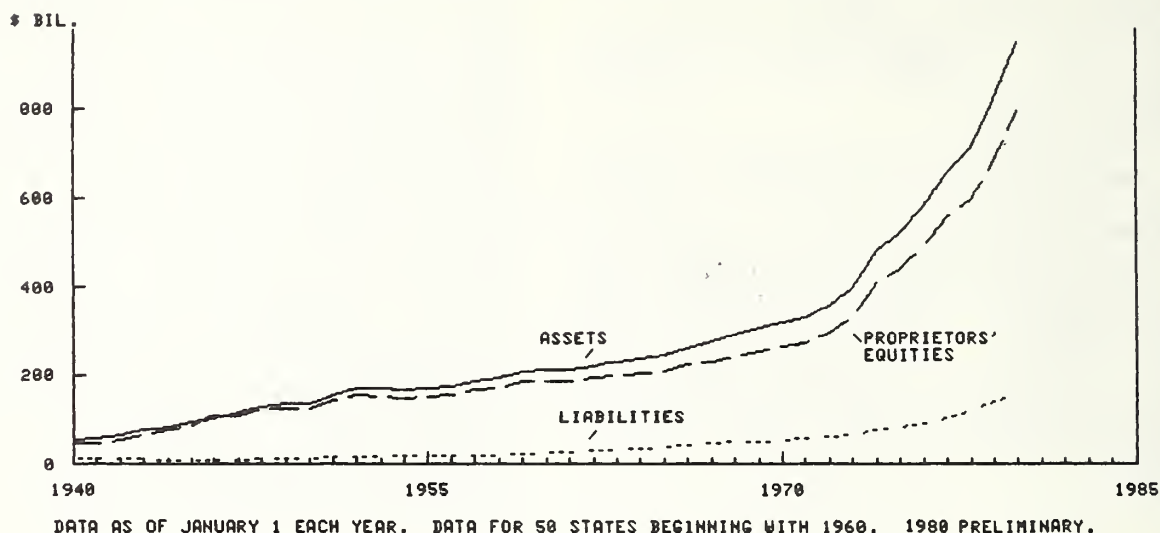
Capital gains on farmers' physical assets are an

Table 1-Balance sheet of the farming sector, January 1, 1970-80

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980 ¹
	<i>Billion dollars</i>										
Physical assets:											
Real estate assets . . .	215.8	223.2	239.6	267.3	327.7	368.5	416.9	483.8	525.8	599.5	696.0
Nonreal estate assets ²	76.3	78.8	86.5	99.7	120.9	117.6	130.0	137.4	151.0	182.2	213.5
Total physical assets	292.1	302.0	326.1	367.0	448.6	486.1	546.9	621.2	676.8	781.7	909.5
Financial assets:											
Commercial bank deposits and currency	11.9	12.4	13.2	14.0	14.9	15.1	15.6	16.0	16.3	16.8	17.2
Other financial assets ³	10.9	11.6	12.5	13.8	15.0	16.3	17.7	18.6	19.9	21.7	23.3
Total financial assets	22.8	24.0	25.7	27.8	29.9	31.4	33.3	34.6	36.2	38.5	40.5
Total farm assets . .	314.9	326.0	351.8	394.8	478.5	517.5	580.2	655.8	713.0	820.2	950.0
Debt claims:											
Real estate debt	29.2	30.3	32.2	35.7	41.3	46.3	51.1	56.6	63.7	72.3	83.1
Nonreal estate debt	21.1	22.3	24.6	27.8	32.1	35.2	39.4	45.1	51.1	60.0	70.2
CCC nonrecourse loans	2.7	1.9	2.3	1.8	.7	.3	.3	1.0	4.5	5.2	4.5
Total debt claims on farm assets	53.0	54.5	59.1	65.3	74.1	81.8	90.8	102.7	119.3	137.5	157.8
Equity	261.9	271.5	292.7	329.5	404.4	435.7	489.4	553.1	593.7	682.7	792.2
Debt to asset ratio . .	16.8	16.7	16.8	16.6	15.5	15.8	15.7	15.7	16.7	16.8	16.6
Debt to equity ratio . .	20.2	20.1	20.2	19.8	18.3	18.8	18.6	18.6	20.1	20.1	19.9

¹ Preliminary estimate. ² Includes machinery and motor vehicles, household furnishings and equipment and inventories of crops (including crops held as security for CCC loans) and livestock. ³ Includes U.S. savings bonds and investments in farmer cooperatives. Does not include holdings of common stocks and savings accounts in savings institutions other than banks, as data on these assets are not available.

FIG. 1 BALANCE SHEET OF THE FARMING SECTOR



important component of farm proprietors' wealth, even though the gains are mostly unrealized. In 1979, farm capital gains are expected to total about \$115 billion, an amount roughly equal to the total of cash receipts from farm marketings and Government payments. For the last several years, farm real estate has accounted for about four-fifths of annual farm capital gains.

The ratio of net farm earnings to equity capital

in farm production assets is estimated at 3.3 percent for 1979, slightly below the 3.6-percent rate of return for 1978. The rate of return declined slightly in 1979, not because earnings declined but because equity values increased so much more rapidly than earnings. Moreover, in 1979 as in other recent years, returns to equity capital were enhanced by substantial "earnings" in the form of capital gains.

FARM REAL ESTATE VALUES

The value of farm real estate, the major asset owned by farmers, gained an average of 14 percent in the year ending February 1, 1979. This was much higher than the 9-percent rise of the previous year, primarily because more favorable farm income prospects and a higher rate of inflation in the general economy. Farm real estate value increases were widespread across the Nation, with gains of over 20 percent in Arkansas, Nebraska, Colorado, and California.

Nationally, average farmland values per acre increased 85 percent in the last 5 years, from \$302 in March 1974 to \$559 in February 1979. In the previous 5-year period—1969 to 1974—the per acre value increased 60 percent, from \$189 to \$302. During 1974 to 1979, farmland values increased an average of 13.2 percent per year, compared with an average of 10.2 percent from 1969 to 1974.

Between 1975 and 1979, Indiana and Minnesota have shown the largest State increases of 153 percent. Minnesota's average value per acre of

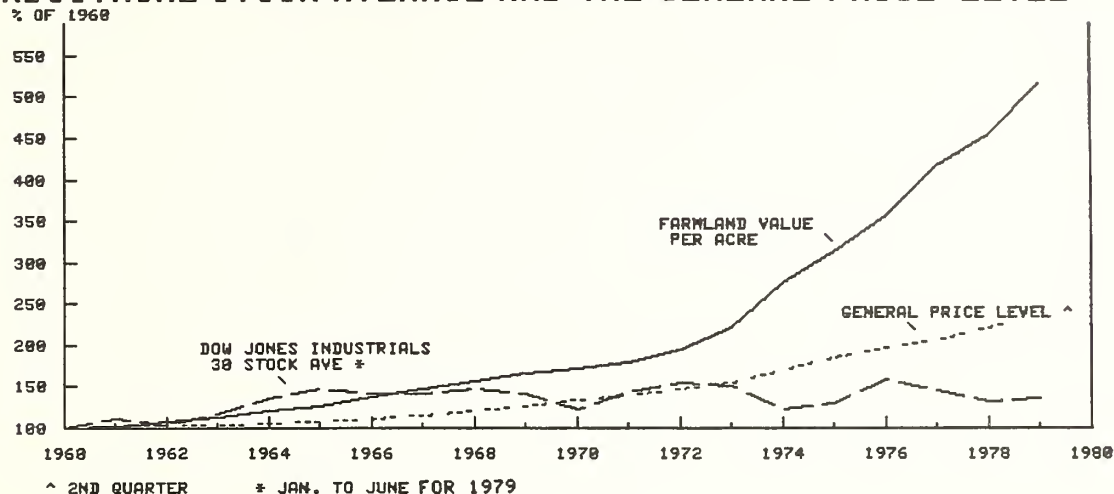
farmland increased over \$500, and Indiana's was up about \$900. The smallest increases were in Arizona and Nevada—both up 22 percent over the last 5 years, or about \$20 an acre.

Farmland values in the Corn Belt increased faster than in the other regions in the last 5 years—up 135 percent, or about \$800 per acre. The smallest increase of 51 percent was in the Southeast and Southern Plains. The per-acre increase in the Southern Plains was \$126, and in the Southeast \$230.

A survey of farm lenders in August and September indicated that, on average, they expected farmland values would increase about 16 percent in the 12 months ending next February 1. Estimates ranged from less than 10 percent to over 20 percent. Opinions were frequently expressed that farmland prices would continue to increase more rapidly than the general price level. (Farm real estate prices, the general price level, and prices of common stock are in figure 2).

FIG. 2

FARMLAND VALUE PER ACRE COMPARED WITH DOW JONES INDUSTRIAL STOCK AVERAGE AND THE GENERAL PRICE LEVEL



FARM DEBT INCREASES MODERATELY

Farm debt has been rising at about the same overall rate in 1979 as in the previous 2 years as farm operators have continued to seek loan funds, even at much higher interest rates (table 2, figure 3). Lenders providing funds to the farm sector generally had adequate funds available. However, commercial banks appeared to be limiting their farm loan disbursements after midyear as the

growth in their available loan funds was slowing and the cost of their deposits was increasing.

There was a further sharp expansion in the emergency loans made by the FmHA and a small additional growth in farm loans of the Small Business Administration (SBA). Interest rates on FmHA and SBA loans were raised in 1979 but continue below rates charged by commercial lend-

FIG. 3 FARM DEBT OUTSTANDING JANUARY 1

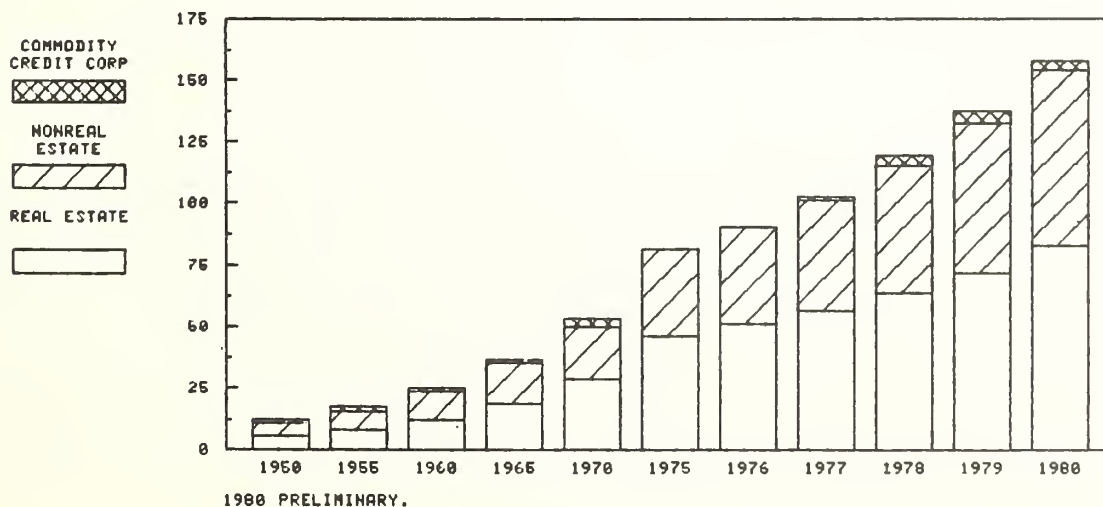


Table 2—Total Farm Debt 1970 and 1975-80¹

Year	Real Estate Debt	Nonreal Estate Debt			Total Debt	
		Excl. CCC price support and storage loans	CCC price Support and Storage loans	Incl. CCC price support and storage loans	Excl. CCC Loans	Incl. CCC Loans
	Million dollars outstanding Jan. 1					
1970	29,183	21,168	2,676	23,844	50,351	53,027
1975	46,288	35,226	319	35,545	81,514	81,833
1976d	51,069	39,406	358	39,764	90,475	90,833
1977	56,559	45,061	1,012	46,073	101,620	102,632
1978	63,641	51,142	4,489	55,631	114,783	119,272
1979	72,232	59,998	5,242	65,240	132,230	137,472
1980	83,122	70,240	4,500	74,740	153,362	157,862
	Dollar Change in year(s)					
1970-74	17,105	14,058	-2,357	11,701	31,163	28,806
1975-79	36,834	35,014	4,181	39,195	71,848	76,029
1975	4,781	4,180	39	4,219	8,961	9,000
1976	5,490	5,655	654	6,309	11,145	11,799
1977	7,082	6,081	3,477	9,558	13,163	16,640
1978	8,591	8,856	753	9,609	17,447	18,200
1979	10,890	10,242	-742	9,500	21,132	20,390
	Percent Change in year(s)					
1970-74	58.6	66.4	-88.1	49.1	61.9	54.3
1975-79	79.6	99.4	131.1	110.3	88.1	92.9
1975	10.3	11.9	12.2	11.9	11.0	11.0
1976	10.8	14.4	182.7	15.9	12.3	13.0
1977	12.5	13.5	343.6	20.7	13.0	16.2
1978	13.5	17.3	16.8	17.3	15.2	15.3
1979	15.1	17.1	-14.2	14.6	16.0	14.8
	Percentage Distribution of Debt Outstanding Jan . 1					
1970	55.0	40.0	5.0	45.0	95.0	100.0
1975	56.6	43.0	.4	43.4	99.6	100.0
1976	56.2	43.4	.4	43.8	99.6	100.0
1977	55.1	43.9	1.0	44.9	99.0	100.0
1978	53.4	42.8	3.8	46.6	96.2	100.0
1979	52.5	43.7	3.8	47.5	96.2	100.0
1980	52.7	44.4	2.9	47.3	97.1	100.0

¹ 1980 Preliminary.

ers. The FmHA emergency loans, particularly, are designed to permit the affected operators to restructure and improve their farming units, as well as to help them overcome the effects of the current physical or economic emergency. FmHA loans are available to farmers judged to be unable to obtain adequate loans at reasonable rates from other sources.

Loans secured by farm real estate have expanded slightly less rapidly than nonreal estate loans, despite the sharp continuing rise in farm real estate values. The slower turnover rate of farm

properties has limited the growth of real estate debt. Loans have been available from the long-term farm lenders at relatively lower rates than for short-term loans, particularly from the Federal land banks (FLB's) but probably also from individuals who are offering their own farms on the market.

CCC price support loans have declined substantially during 1979, as much higher prices for the major supported grain crops resulted in some withdrawals from the CCC reserve stocks built up during previous years.

Farm Real Estate Debt

Debt secured by farm real estate rose a little more rapidly in 1979 than in 1978—15 percent compared with 13.5 percent (table 3). In dollar terms, the increase was a record (figure 4). The debt increase is fairly closely linked to selling prices of farmland and the volume of sales, because much of the debt incurred is secured by the farm property purchased with the loan proceeds. Judging by 1978, probably about 90 percent of the farmland transfers this year will involve the use of credit.

The number of farming units being transferred declined slightly in the year ending February 1, 1978, and again between February 1978 and February 1979. Interim estimates indicate that the transfer rate for 1979/80 will not increase. It seems probable that an increasing number of potential land sellers are delaying sales in the hope of fur-

ther gains in land prices. The smaller number of transfers has limited the growth in new and outstanding loans.

All the FLB's, reporting in September, expected increased demand for loans during 1979; 9 of the 12 Banks expected a further increase in 1980. Similarly, life insurance companies reported strong loan demand, and predicted a 17-percent increase in their loan balances during 1979.

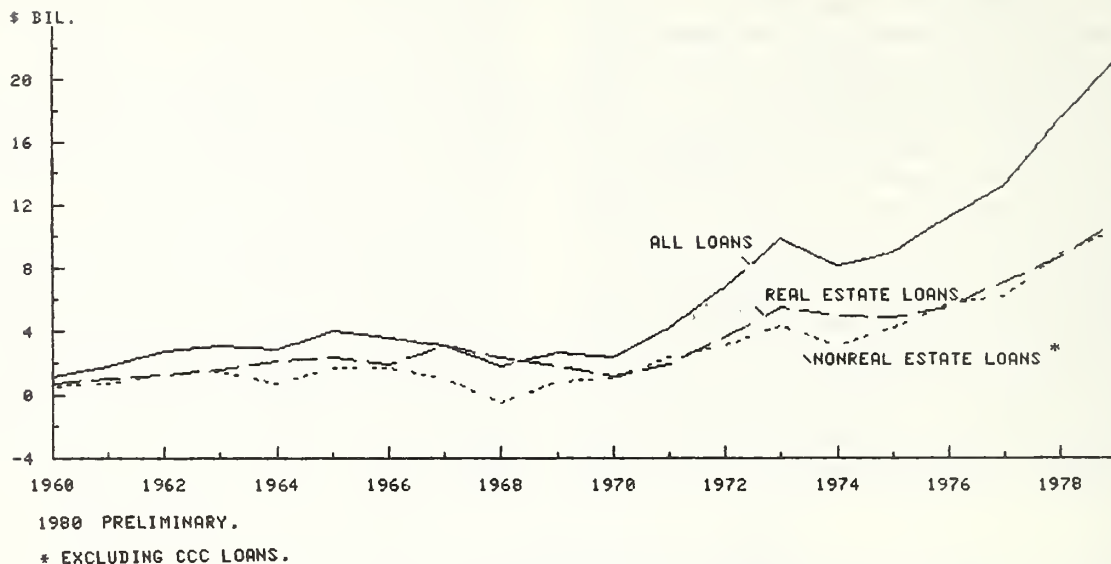
The lender surveys were completed prior to the actions of monetary authorities in early October to limit growth in the money supply. This action, however, is not expected to significantly influence farm mortgage loan fund availabilities in 1980. Loan funds will probably continue to be available for real estate purposes from most of the several lenders who make such loans, although at higher interest rates.

Table 3-Real Estate Farm Debt, 1970 and 1975-80¹

Year	Debt owed to reporting institutions						
	Federal land banks	Life Insurance Companies	All Operating Banks	Farmers Home Administration	Total	Individuals and Others	Total
<i>Million dollars outstanding Jan. 1</i>							
1970	6,671	5,734	3,545	2,280	18,230	10,953	29,183
1975	13,402	6,297	5,966	3,215	28,880	17,408	46,288
1976	15,950	6,726	6,296	3,369	32,341	18,728	51,069
1977	18,455	7,400	6,781	3,657	36,293	20,266	56,559
1978	21,391	8,819	7,780	3,982	41,972	21,669	63,641
1979	24,619	10,168	8,557	4,121	47,465	24,767	72,232
1980	29,540	11,900	8,972	4,400	54,812	28,310	83,122
<i>Dollar Change in year(s)</i>							
1970-74	6,731	563	2,421	935	10,650	6,455	17,105
1975-79	16,138	5,603	3,006	1,185	25,932	10,902	36,834
1975	2,548	429	330	154	3,461	1,320	4,781
1976	2,505	674	485	288	3,952	1,538	5,490
1977	2,936	1,419	999	325	5,679	1,403	7,082
1978	3,228	1,349	777	139	5,493	3,098	8,591
1979	4,921	1,732	415	279	7,347	3,543	10,890
<i>Percent Change in year(s)</i>							
1970-74	100.9	9.8	68.3	41.0	58.4	58.9	58.6
1975-79	120.4	89.0	50.4	36.9	89.8	62.6	79.6
1975	19.0	6.8	5.5	4.8	12.0	7.6	10.3
1976	15.7	10.0	7.7	8.5	12.2	8.2	10.8
1977	15.9	19.2	14.7	8.9	15.6	6.9	12.5
1978	15.1	15.3	10.0	3.5	13.1	14.3	13.5
1979	20.0	17.0	4.8	6.8	15.5	14.3	15.1
<i>Percentage Distribution of Debt Outstanding Jan. 1</i>							
1970	22.9	19.7	12.1	7.8	62.5	37.5	100.0
1975	29.0	13.6	12.9	6.9	62.4	37.6	100.0
1976	31.2	13.2	12.3	6.6	63.3	36.7	100.0
1977	32.6	13.1	12.0	6.5	64.2	35.8	100.0
1978	33.6	13.9	12.2	6.3	66.0	34.0	100.0
1979	34.1	14.1	11.8	5.7	65.7	34.3	100.0
1980	35.5	14.3	10.8	5.3	65.9	34.1	100.0

¹ 1980 Preliminary.

FIG. 4 ANNUAL CHANGE IN FARM DEBT



The dollar value of loans held by the Federal land banks in 1979 increased more rapidly than those of the other lenders. Relatively lower interest rates available on new loans from the Federal land banks encouraged greater use of these loans. Commercial banks are increasing their real estate loans at a slower rate than the other lenders. Some bankers commented that they favored shorter-term loans because of limits on their loan resources.

One major real estate lender may be largely immune to the measures to control the money supply. This group, identified in table 3 as "individuals and others," includes mainly sellers of farmland who use their equity in the property they are selling to provide all or part of the financing needed by the purchasers. Little current information is available about this group, but it seems that the higher interest rates now being received on farm real estate loans may encourage more seller-financed sales.

Nonreal Estate Farm Debt

Farm loans for operating and related short-term purposes continued to climb moderately in 1979, similar to the percentage rise in other recent years. However, the dollar increase during 1979 will probably be greater than in any previous year. All of the surveyed lender groups reported increased credit demands during the year. Each of the 12 Federal intermediate credit banks said demands for production credit association (PCA) loans were greater in 1979 than in 1978, and demand is expected to continue increasing in 1980.

The FmHA loan volume in 1979/80 will depend on their loan authorizations. Most of the \$4 billion authorized for the FmHA economic emergency loan program for the 2-year period ending in May 1980 had already been used by October 1979. Federal authorizations for making the disaster emergency loans depend upon the requirements for such assistance; authorizations for FmHA operating loans do not vary much from year to year.

Commercial bankers reported further increases in most types of their farm nonreal estate loans in 1979/80, although not quite as strong as the growth in 1978/79 (table 4). General operating loans and machinery loans were in strongest demand. Feeder cattle loans and other livestock loans, including loans for hog and dairy operations, appeared weaker.

While the bankers in the survey were expecting increases in most types of their farm loans, they were indicating some declines in farm loan availabilities. Compared with 1978, a slightly larger portion of the bank respondents in 1979 indicated they considered their loan/deposit ratio too high. In 1977, 37 percent of the respondents said their loan/deposit ratio was higher than they preferred. By 1979, this had risen to 41 percent. Their loan/deposit ratios influence their willingness to grant loans.

Another indication of a moderate tightening in the availability of farm loans from banks this year was that a greater percentage of bank respondents felt their funds available for lending had been short relative to demand—45 percent in 1979 compared with 37 percent in 1978.

Table 4-Changes in volume of different types of farm loans at commercial banks, United States¹

Type of Loan	Actual change:			Expected change:		
	Mid-1978 to mid-1979			Mid-1979 to mid-1980		
	Increase	Decrease	Same	Increase	Decrease	Same
	---Percent of banks reporting---					
General operating	81	4	15	74	5	21
Machinery	70	8	22	62	7	31
Crop storage	35	11	53	31	11	58
Other livestock incl. dairy	48	9	43	37	11	52
Feeder cattle	44	17	39	38	14	48
All nonreal estate	62	7	31	54	8	38
Farm real estate	24	25	51	18	24	58
Total	—	—	—	—	—	—

¹ Data were obtained in a survey conducted by the American Bankers Association (ABA) in Aug.-Sept. 1979.

Table 5—Nonreal Estate Farm Debt, 1970 and 1975-80¹

Year	Debt owed to reporting institutions (excluding CCC)					Individuals and Others ³	Total excluding CCC loans	CCC price support and storage loans	Total, including CCC loans
	All Operating Banks	Production credit assoc.	Federal intermediate credit banks ²	Farmers Home Admin.	Total				
	Million dollars outstanding Jan. 1								
1970	10,330	4,495	218	785	15,828	5,340	21,168	2,676	23,844
1975	18,238	9,519	374	1,044	29,175	6,050	35,226	319	35,545
1976	20,160	10,773	350	1,772	33,055	6,350	39,406	358	39,764
1977	23,283	12,223	368	1,877	37,761	7,300	45,061	1,012	46,073
1978	25,709	13,508	374	3,141	42,732	8,410	51,142	4,489	55,631
1979	28,273	15,016	509	5,780	49,578	10,420	59,998	5,242	65,240
1980	30,400	17,570	650	9,900	58,520	11,720	70,240	4,500	74,740
	Dollar Change in year(s)								
1970-74	7,908	5,024	156	259	13,347	710	14,058	-2,357	11,701
1975-79	12,162	8,051	276	8,856	29,345	5,670	35,014	4,181	39,195
1975	1,922	1,254	-24	728	3,880	300	4,180	39	4,219
1976	3,123	1,450	18	105	4,706	950	5,655	654	6,309
1977	2,426	1,285	6	1,264	4,971	1,100	6,081	3,477	9,558
1978	2,564	1,508	135	2,639	6,846	2,010	8,856	753	9,609
1979	2,127	2,554	141	4,120	8,942	1,300	10,242	-742	9,500
	Percent Change in year(s)								
1970-74	76.6	111.8	71.6	33.0	84.3	13.3	66.4	-88.1	49.1
1975-79	66.7	84.6	73.8	848.3	100.6	93.7	99.4	1,310.7	110.3
1975	10.5	13.2	-6.4	69.7	13.3	5.0	11.9	12.2	11.9
1976	15.5	13.5	5.1	5.9	14.2	15.0	14.4	182.7	15.9
1977	10.4	10.5	1.6	67.3	13.2	15.2	13.5	343.6	20.7
1978	10.0	11.2	36.1	84.0	16.0	23.9	17.3	16.8	17.3
1979	7.5	17.0	27.7	71.3	18.0	12.5	17.1	-14.2	14.6
	Percentage Distribution of Debt Outstanding Jan. 1								
1970	43.3	18.9	.9	3.3	66.4	22.4	88.8	11.2	100.0
1975	51.3	26.8	1.1	2.9	82.1	17.0	99.1	.9	100.0
1976	50.7	27.1	.9	4.4	83.1	16.0	99.1	.9	100.0
1977	50.6	26.5	.8	4.1	82.0	15.8	97.8	2.2	100.0
1978	46.2	24.3	.7	5.6	76.8	15.1	91.9	8.1	100.0
1979	43.3	23.0	.8	8.9	76.0	16.0	92.0	8.0	100.0
1980	40.7	23.5	.9	13.2	78.3	15.7	94.0	6.0	100.0

¹ 1980 Preliminary. ² Financial institutions other than PCA's that obtain funds from the FICB's. ³ Includes Small Business Administration farm loans estimated at \$.3 bil., \$1.7 bil., and \$2.0 bil. for Jan. 1, 1978, 1979, and 1980, respectively.

Presumably, the reported large growth in their loan volume so far in 1979 had placed some additional pressure on loan fund availabilities. About one-fifth of the bank respondents indicated that in 1978-79 they had denied loans, or had granted smaller loans than requested, because of their banks' loan fund situations. The majority of banks had begun to take steps to increase or to maintain their loan funds by offering to pay much higher rates on their deposits.

Despite the apparent tightening in loan availability, the surveyed bankers believed that when all of the lender sources were considered, the great majority of their customers—all but 3 percent—had received adequate credit from mid-1978 to mid-1979. Possibly this reflected, in part, the increased availability of FmHA loans for their most financially-stressed borrowers.

The difficulties banks are experiencing in meeting the credit needs of their customers, were shown by the response to the American Bankers Association survey question, which asked bankers the greatest single problem facing their bank at present. About one-third responded that loan demands were too high for their loanable resources. Actually, this was the only subject on which there was any significant consensus.

Loans of the six full-line farm machinery companies rose more rapidly during 1979 than in the previous year (table 6). New loans are estimated to have increased 22 percent and loans outstanding, 13 percent. Loan volume had remained practically unchanged during 1978, following gains of around 40 percent in 1977. The value of farm machinery sales to farmers in 1979 was about 15 percent greater than in 1978, reflecting a slight increase in units sold and about a 10-percent rise in prices.

The credit subsidiaries of farm machinery companies indicated that the quality of their loans has remained very high in 1979, with practically no defaults or delinquencies.

Loans made through the farm machinery dealers and other sellers of farm inputs are included in the "individuals and others" component of the non-real estate debt in table 5. Small Business Administration (SBA) farm loans, which became large in 1978, is the other major component in this group. SBA loans are expected to reach about \$2 billion outstanding by the beginning of 1980. Growth was about \$0.3 billion in 1979, following a \$1.5-billion rise in 1978.

The increases expected by the survey respondents in loans outstanding for the various nonreal estate loan sources are shown in table 5. Loans of banks are indicated by respondents to be rising less rapidly during 1979, especially in the last half of the year. Farm loan availabilities at banks may have been diminished further by the actions of the Federal Reserve Board in October, to

Table 6—Loan funds supplied by six large full-line farm machinery manufacturers for retail purchases of farm machinery and equipment¹

	Loans outstanding end of year	
	Million dollars	Percent (1970=100)
1970.....	1,170	100
1971.....	1,179	101
1972.....	1,499	128
1973.....	1,183	101
1974.....	1,160	99
1975.....	1,530	131
1976.....	2,192	187
1977.....	3,067	262
1978 ²	3,131	268
1979 ³	3,543	303
	Loans made during year	
	Million dollars	Percent (1970=100)
1970.....	928	100
1971.....	936	101
1972.....	1,329	143
1973.....	1,065	115
1974.....	876	94
1975.....	1,236	133
1976.....	1,915	206
1977.....	2,682	289
1978 ²	2,661	287
1979 ³	3,227	348

¹ Excludes loan estimated to have been made for nonfarm purposes. Years shown are company fiscal years: October 31 for 4 companies, December 31 for the other 2. Data, including estimates for 1979 and revisions, were provided by the six companies. ² Revised. ³ Estimated.

restrict loan growth as a damper on inflation. Other lenders will be affected less.

The largest growth indicated is for FmHA loans. The continued rapid growth in their disaster emergency loans, plus the new economic emergency loans, resulted in a greater rise for that agency than in any previous year. Undoubtedly some of the loans that would have been made, or would have continued to be held by private lenders, were refinanced by the FmHA. About two-thirds of the dollar volume of the economic emergency loans has been used to repay debts owed to other lenders. Lenders in general seemed to welcome the help provided them with some of their troublesome loans, although a few respondents questioned whether some of the FmHA loans might lead to losses or to excessive delinquencies.

Each year, lenders discontinue financing a portion of their borrowers, usually because the borrowers are not making satisfactory progress in repaying loans. PCA's were reported to be discontinuing to finance about 1½ percent of their borrowers in 1979. The survey bankers indicated they expected to discontinue financing slightly over 1 percent of their borrowers in 1979-80. Discontinuance rates for PCA's and bank borrowers are lower this year than in 1978. The bankers

reported that more than one-half of their discontinued borrowers in 1978-79 had obtained loans from the FmHA. Most of the remainder were financed by other lenders, while an estimated 10 percent of those discontinued did not obtain other financing.

Interest Rates and Charges

Interest rates on farm loans have increased considerably during 1979. In October, rates averaged around 10 percent for farm real estate loans and 11 percent or more for nonreal estate loans.

Interest rates on Federal land bank loans in November averaged 9.4 percent, up 0.7 percentage point from January. Two of the 12 FLB's increased their rates 0.25 percentage point effective November 1. The variable rate charged by FLB's results in rate charges on their new loans rising more slowly when overall interest rates are rising and declining more slowly when rates are declining.

The latest information for interest rates on farm-seller financed contracts or mortgages, as of February 1979, was an average of 8.3 percent. Rates have probably increased since then, to more or less maintain the usual 1½ to 2 percentage point margin below FLB rates (figure 5).

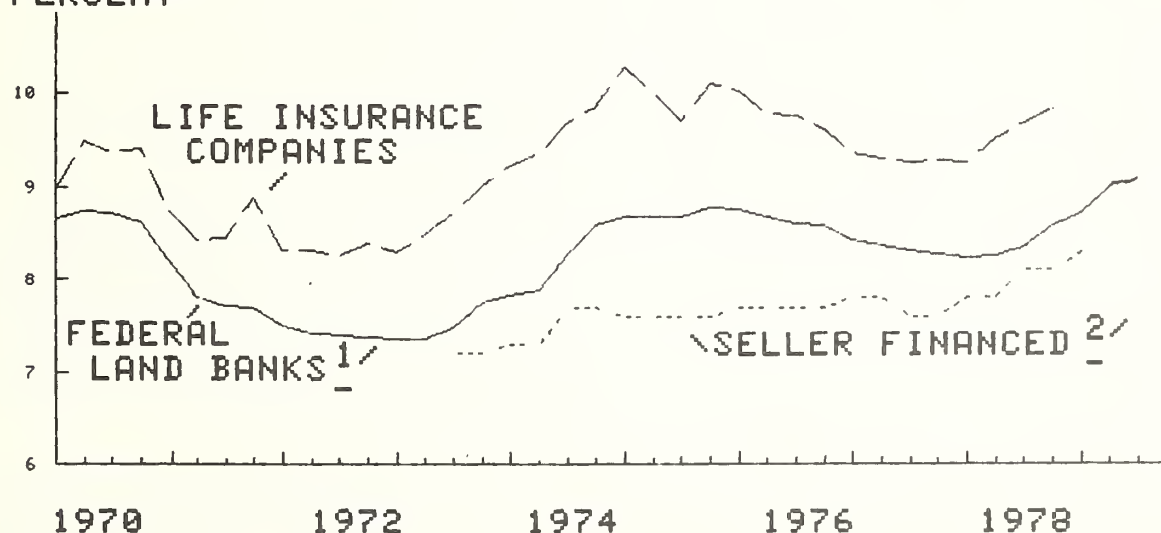
Commercial banks and PCA's in the third quarter of 1979 were charging about 11 percent on their loans. Bank interest rates on nonreal estate farm loans are now closer to the prime rate charged urban borrowers than they used to be. Rural banks are finding it necessary to pay higher rates for deposits, and this is one factor leading them to charge higher rates to their borrowers (figure 6).

Rates charged on FmHA loans in September were 9.0 percent for farm ownership loans and 9.5 percent for operating loans. Rates charged on most of the economic emergency loans were also 9.0 percent or 9.5 percent. On November 1, these rates were raised one percentage point. Interest rates on disaster emergency loans vary but average around 5 percent. FmHA interest rates are closer to the rates charged by private lenders than they were before new legislation was enacted in 1978.

Interest rates on CCC price support loans have been increased sharply over the last year. The rate on the 1978 crop loans is 7 percent; loans on 1979 crops carry a 9-percent rate. The rate on crop storage facilities and drying equipment is 10.5 percent, if the application for the loan was dated March 21, 1979, or later. Previously, the rate was 7 percent.

Interest charges on the farm debt rose sharply

FIG. 5 INTEREST RATE ON FARM REAL ESTATE LOANS PERCENT



QUARTERLY DATA FOR LIFE INSURANCE COMPANIES (NEW COMMITMENTS) AND FEDERAL LAND BANKS (NEW LOANS). SEMI-ANNUAL DATA FOR SELLER FINANCED. LATEST RATES ARE 9.8 FOR LIFE INSURANCE COMPANIES IN 4TH QTR. 1978, 9.3 FOR FEDERAL LAND BANKS IN OCTOBER 1979 AND 8.3 FOR SELLER FINANCED IN FEBRUARY 1979.

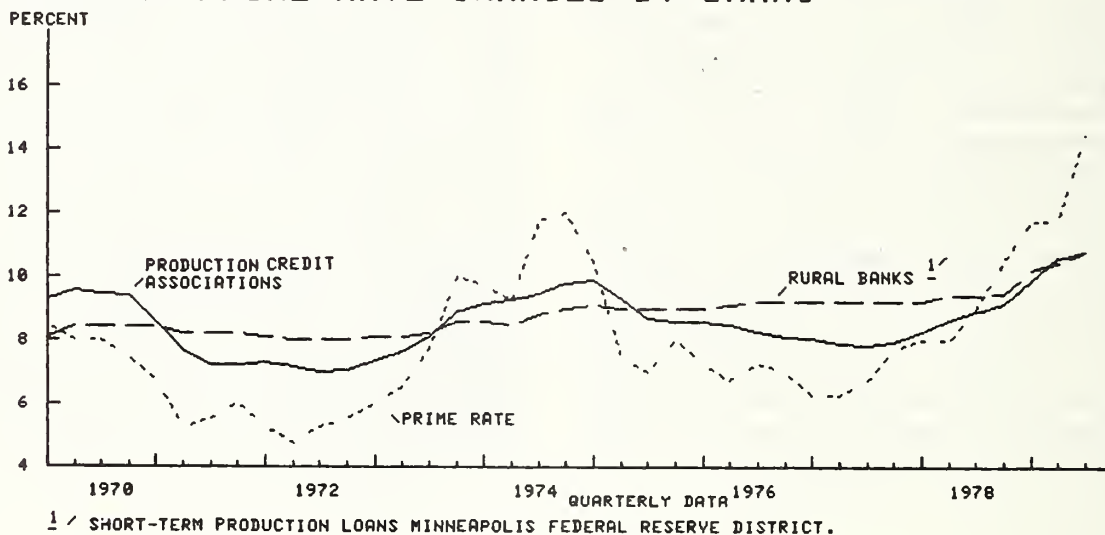
1/ EXCLUDES COST OF REQUIRED STOCK PURCHASES.

2/ FINANCING OF THE SALE IS PROVIDED BY THE PREVIOUS OWNER OF THE FARMLAND.

in 1979, reflecting both increased rates and the greater indebtedness. Total charges will probably reach about \$12 billion, up 28 percent from 1978. Increases will be greatest for nonreal estate debt,

up 35 percent to \$5.7 billion; real estate interest charges will reach about \$6.2 billion, an increase of 21 percent. In 1980, total interest charges are forecast to increase to \$14 billion, a rise of 16 percent.

FIG. 6
INTEREST RATES ON NONREAL ESTATE FARM LOANS,
AND THE PRIME RATE CHARGED BY BANKS



CASH SOURCES AND USES OF FUNDS FOR THE FARM SECTOR—1979

Cash sources of funds for the farm sector in 1979 are forecast at \$116.6 billion (table 7). These funds include net cash farm income plus nonfarm income of farm operators and their families, as well as the net flow of real estate and nonreal estate loan funds. Income from the sale of farmland to the nonfarm sector, gifts, and inheritances are not included due to lack of data.

Income From Farm And Nonfarm Sources

Net cash income from farm and nonfarm sources (in current dollars) in 1979 again increased substantially over the previous year. The forecasted increase in net farm income of about \$2 to \$4 billion is due to the improvement in domestic use and exports this year. Export growth was caused by poor weather in other areas of the world, and strong domestic demand for meat came at a time when beef output was being reduced by the change in the cattle cycle. Other increases include another substantial gain in nonfarm income. In constant 1967 dollars, total net cash income for

1979 is likely to be about \$3.7 billion higher than for 1978, and second only to 1973 in purchasing power.

The ratio of net cash income from farm and nonfarm sources to total cash uses of funds, measures the degree to which farm operators rely on internally generated funds to meet their cash needs. This ratio has been trending downward throughout the seventies. While 1979 shows a small increase over 1978, next year's lower farm incomes mean that the decline will likely resume.

Farm Borrowing

Both real estate and nonreal estate net borrowing increased in 1979. As in past periods of rising interest rates, the Farm Credit System is expected to provide the largest share of the new loans. This year the Farmers Home Administration has also been a major lender, with loans outstanding expected to reach \$9.9 billion at the end of the year as opposed to \$5.8 billion a year earlier.

The ratio of debt outstanding to total net cash income is a measure of the relative burden of debt

Table 7 Cash Sources and Uses of Funds in the Farm Sector 1970-1979

Items	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979 ^a
<i>Billion dollars</i>										
Cash Sources of Funds:^b										
1 Net cash income from farm and nonfarm	37.9	39.7	48.2	66.8	63.4	60.8	64.8	64.5	79.1	96.8
2 Net flow of real estate loans	1.0	1.7	3.2	4.9	4.5	4.3	4.9	6.3	7.7	9.6
3 Net flow of nonreal estate loans ^c	1.1	2.4	3.2	4.3	3.1	4.2	5.7	6.0	8.9	10.2
4 Total cash sources of funds	40.0	43.8	54.6	76.0	71.0	69.3	75.4	76.8	95.7	116.6
Cash Uses of Funds:^d										
5 Purchases of machinery and motor vehicles . . .	5.5	5.3	6.2	8.2	11.7	6.6	7.3	9.8	12.3	15.5
6 Capital improvement to real estate assets	1.2	0.8	2.7	0	13.3	5.1	8.2	5.8	8.9	7.4
7 Other capital purchases ^e	1.8	2.6	3.2	2.9	3.1	1.8	1.9	3.8	5.3	5.8
8 Annual capital formation	8.5	8.6	12.1	11.1	28.1	13.5	17.3	19.4	26.5	28.7
9 Purchases of real estate from discontinuing proprietor	5.0	6.2	8.5	10.7	9.5	9.5	10.9	11.5	12.7	12.8
10 Total purchased capital	13.5	14.8	10.6	21.8	37.6	23.0	28.2	30.9	39.2	41.5
11 Personal consumption and other	26.5	29.0	34.0	54.2	33.4	46.3	47.2	45.9	56.5	75.1
12 Total cash uses of funds	40.0	43.8	54.6	76.0	71.0	69.3	75.4	76.8	95.7	116.6
13 Total purchased capital	13.5	14.8	20.6	21.8	37.6	23.0	28.2	30.9	39.2	41.5
14 Change in inventories	0	1.4	.9	3.4	1.6	3.4	-2.3	1.1	1.1	3.0
15 Total capital flow	13.5	16.2	21.5	25.2	36.0	26.4	25.9	32.0	40.3	44.5
Real Dollar Flows:										
16 Total net cash income/CPI (1967=1.0)	32.6	32.7	38.5	50.2	42.9	37.7	38.0	35.5	40.5	44.2
17 Personal consumption and other cash	22.8	23.9	27.1	40.7	22.6	28.7	27.7	25.3	28.9	34.3
Analytical Ratios^f										
<i>Percent</i>										
18 Total purchased capital/total net cash	36	37	43	33	59	38	44	48	50	43
19 Total net flow of loans/total purchased capital (2+3÷10)	16	28	31	42	20	37	38	40	42	48
20 Total net flow of loans/total capital flow (2+3÷15)	16	25	30	37	21	32	41	38	41	44
21 New flow of real estate loans/total cash uses (2÷12)	3	4	6	6	6	6	6	8	8	8
23 Cash income/total cash uses (1÷12)	94	91	88	88	90	88	86	84	83	85
24 Debt outstanding/total net cash income	140	137	123	103	117	135	140	159	151	142

^aPreliminary. ^bCash sources of funds from sale of real estate to the nonfarm sector are not included due to lack of data. ^cDoes not include CCC loans. ^dGross cash operating expenses have been deducted from gross cash farm income. ^eIncludes net additions to household furnishings, commercial bank deposits and currency, and purchases of breeding livestock. ^fDebt-asset ratios and debt-equity ratios are shown in table 1.

against income. This ratio has increased from 100 in 1973 to 142 in 1979. Continued movement towards external financing may portend cash flow problems for the sector in years of reduced incomes.

Cash Uses of Funds In the Farm Sector

A cash flow statement requires that cash funds available from all sources be identical to cash uses. Thus, total cash available of \$116.6 billion equals cash uses of funds in table 7. Cash sources of funds can be used to acquire capital assets, purchase consumption items, or for savings.

Farm Capital Flows

The relatively high investment flows in capital assets that started in 1978 are expected to continue

throughout this year. Annual capital formation is forecast at \$28.7 billion in 1979, \$2.2 billion above 1978. This represents a slight decrease in the quantity of capital purchased, since prices went up by more than the 8-percent increase in expenditures. However, it is the largest current dollar investment in history, surpassing 1974 by \$0.6 billion.

Other capital items include net changes in bank deposits and currency, net additions to household furnishings and equipment, and purchases of breeding livestock. An estimated \$5.4 billion is being spent for such purposes in 1979.

The value of real estate purchased by established or beginning farmers, or by nonoperator landlords from discontinuing proprietors, is expected to total \$12.8 billion, slightly more than in 1978. While real estate values are expected to increase at about a 16-percent rate in 1979, the transfer rate probably continued its downward

trend of the last few years. The increased value of real estate about offset the reduced transfer rate, so that no significant change is shown in the value of land transferred.

Changes in crop and livestock inventories are a relatively small but highly variable component of capital flow. Unlike other capital assets, most inventories are homegrown, requiring cash expenditures only for the inputs to produce them. Therefore, changes in the values of inventories are presented separately in table 7.

Ratios of the net flow of loan funds to purchased capital, or to total capital flows, allow measurement of the relative importance of borrowed funds in financing capital acquisitions. For 1979, it is expected that the net change in loan funds will account for only 43 percent of total purchased capital, as opposed to 50 percent in 1978.

Personal Consumption And Other Cash Uses

Personal consumption and other cash uses of funds include expenditures for food, clothing, taxes, other personal consumption items, and non-farm investments. The value is estimated residually by subtracting total purchased capital and nonfarm investments reported in the *Balance Sheet of the Farming Sector* from total sources of funds. For 1979, personal consumption and other cash uses are estimated at \$75.1 billion. In real dollars*, personal consumption and other cash uses total \$44.2 billion, second only to 1973 in purchasing power.

*This year the CPI is used as a deflator instead of the GNP price deflator used in past years. Using the CPI is consistent with procedures used in *Farm Income Statistics* to show the purchasing power of income.

OUTLOOK FOR 1980¹

Net farm income in 1980 may be sharply lower than in 1979, possibly dropping by as much as one-fifth. If net farm income declines to the mid-\$20 billion in 1980, this would be only marginally above the reduced levels of 1976 and 1977. When measured in constant 1967 dollars, the income expected for 1980 could be below the 1976-77 level, and perhaps the lowest of the entire post World War II period.

The major cause of the decline in farm income would be the further rise in production expenses, only partly offset by small increases in gross farm receipts. Production expenses are forecast to rise by \$13 billion or 11 percent from 1979 to 1980.

The major change in balance sheet items projected by the model for January 1, 1981, is the very small increase in farmland values—of \$32 billion dollars or 5 percent (table 8). The change in the major asset, farmland, is largely responsible for the increase of \$40 billion, or 4 percent, in total assets forecast for 1980. The reduced gain in farmland values, and thus in asset values, reflects the greatly reduced net farm income expected in 1980. There are some other factors including the higher interest rates slowing asset price increases, but their importance is small relative to that of the decline in farm income.

While the model forecasts a much reduced rate of increase in farm land prices during 1980, some lender groups and other observers expect the increase to be more than the forecast. For example, bankers in the American Bankers Association survey expect a gain of about 10 percent from mid-1979 to mid-1980 (the dates that were given in the survey questionnaire). Another consideration is that while the farm income may decline sharply in 1980, the drop may be heavily concentrated in two commodities—hogs and poultry. Because of the fairly localized nature of the income decline, the impact on land values might be less than indicated by the model. And finally, since the income decline will be experienced by farmers only toward the second half of 1980, it seems likely that real estate values in 1981 will be affected more than those in 1980—and at this time the prospects for 1981 are unknown. Considering the various factors, an increase in farm real estate values from February 1, 1980 to February 1, 1981 within the range of 5 to 10 percent seems probable.

¹The January 1, 1981 balance sheet projections shown here, have been made using current forecasts of the farm income components for 1980 and of balance sheet estimates for January 1, 1980. This year a new model replaces the Aggregate Income and Wealth (AIW) Simulator that has been used for the last 6 years, to forecast a balance sheet for the coming year. The new model called GEM, short for "A General Equilibrium Model of Agriculture as part of the U.S. National Economy," provides simultaneous solutions for both the farm and nonfarm components of the overall economy. Solving all parts of the model at the same time yields more consistent results when analyzing national policy changes, than do the results provided by other models where solutions are arrived at recursively. Within GEM, farm production is linked to other sectors of the economy through input, output, and financial markets. Further documentation of the new model will be available next year in the form of a technical report. Until the report is published, the interested reader can write to Dean Hughes, ESCS, NED, 500 12th St., S.W., Washington, D.C. 20250.

Table 8—Balance Sheet of the Farming Sector

Items/Years (Jan. 1)	1977	1978	1979	1980 ¹	1981 ²	Percent Changes	
						79-80	80-81
\$ Billions							
Assets							
Physical Assets:							
Real Estate	483.8	525.8	599.5	696.0	727.6	16	5
Nonreal Estate							
Livestock and Poultry	29.1	32.0	51.3	64.0	56.8	25	-11
Machinery and Motor Vehicles	71.9	77.7	84.3	97.0	105.5	15	9
Crops stored on and off-farms	22.0	24.9	27.4	30.5	34.2	11	12
Household Equipment and Furnishings	14.4	16.4	19.2	22.0	22.1	15	1
Financial Assets:							
Deposits and Currency	16.0	16.3	16.8	17.2	17.3	2	1
U.S. Savings Bonds and Investments in Cooperatives	18.6	19.9	21.7	23.3	26.4	7	13
Total Assets	655.8	713.0	820.2	950.0	989.9	16	4
Claims							
Liabilities:							
Real Estate Debt	56.6	63.7	72.3	83.1	95.7	15	15
Nonreal Estate Debt to:							
CCC	1.0	4.5	5.2	4.5	4.6	-13	2
Others	45.1	51.1	60.0	70.2	82.2	17	17
Total Liabilities	102.7	119.3	137.5	157.8	182.5	15	16
Proprietors Equities							
	553.1	593.7	682.7	792.2	807.4	16	2
Total Claims	655.8	713.0	820.2	950.0	989.9	16	4

¹ p = Preliminary. ² f = Forecast using GEM model.

Does the smaller rise in farmland values in 1980—whether or not values turn out close to the forecast of the model—possibly forewarn of a serious decline in farmland prices and accompanying hardships in the farming sector and to the lenders who serve farmers? Probably not, judging by experiences from 1960-1978 with farm real estate prices, nominal and “real” earnings on farmland, the inflation psychology existing in those years, and other factors considered to be relevant.

Information on real returns to production assets in agriculture since 1960 shows that while they have been highly variable from year to year, in the longer run these returns have shown continuing increases. As the growth in returns appears to have been incorporated into expectations, rapidly increasing land prices have been the result. To forecast rapid decreases in the value of real estate, however, it would be necessary to either reverse the expectations of a 20-year trend or to have some

sort of catastrophic trigger placing a substantial fraction of total land on the market at one time.

Although a decrease in returns is expected in 1980, a 1-year change is not likely to influence buyers' expectations enough to cause a decline in land values. And, given the number of government programs designed specifically to help agriculture during trouble periods, a large number of foreclosures of farms is highly unlikely in years ahead.

If reduced earnings persist after 1980, it will be even more difficult to purchase farmland and to finance the annual cash earnings deficit for the long number of years required until annual land earnings finally have risen enough to cover the required land purchase outlays. Land purchase outlays would be increased by the higher interest costs.

Further information on this aspect of the farm financial situation is given in the analysis by David Lins included as an appendix to this report.

TYPE OF FARM

The following section describes the current and prospective financial conditions of major farm types in the United States. An indication of the numbers and locations of these units is shown in table 9 and on the maps accompanying the farm types. The number of farms and distributional information in the table are from the 1974 Census of Agriculture.

Financial information in this section of the report was received in August and September in a

survey of commercial banks, FmHA, Federal intermediate credit banks (for production credit associations), Federal land banks, Federal Reserve District Banks, State Agricultural Extension Service, and major life insurance companies. This information was used in analyzing the financial condition for 1979 and the outlook for 1980 for the major types of farms. In the statistical tables on financial conditions, only data from commercial banks is included because the number of reports

Table 9—Numbers and characteristics of farm types, U.S. 1974 Census of Agriculture

Type of farm ^a	Number of farms		Value of farm products produced	Value of land and buildings, Dec. 31, 1979	Farms with value or farm products sold of \$100,000 or more	
	Thousand	Percent distribution	Percent distribution	Percent distribution	Percent of farm numbers within each type	Percent of total product sales within each type
Cash grain ^b . . .	661.7	39.0	36.2	44.2	9.4	46.7
Livestock ^c . . .	493.8	29.1	27.5	30.4	7.0	61.9
Dairy	196.1	11.6	11.9	8.7	8.0	34.9
Tobacco	95.5	5.6	2.0	2.0	1.6	17.1
Fruit and Nut . .	70.9	4.2	5.6	4.3	12.4	69.4
Poultry	42.7	2.5	7.9	1.3	38.1	79.8
Cotton	30.7	1.8	2.3	2.5	13.8	66.9
Vegetable	19.5	1.2	2.7	1.5	16.9	83.9
Other ^d	84.1	5.0	3.9	5.1	6.9	47.9
All types	1,695.0	100.0	100.0	100.0	—	—

^aBased on distribution of class 1-5 farms (farms with annual sales of farm products of \$2,500 or more) by types from the 1974 Census of Agriculture. The type of farm classification indicates that a particular product or group of products amounts to 50 percent or more of the total value of all farm products sold during the year. ^bIncludes census type of farms cash grain and field crop. ^cLivestock farms in 1974 consisted of 263 thousand beef cattle (except feed lots); 53 thousand beef cattle feedlots; 108 thousand hogs; 9 thousand sheep and goats, and 60 thousand general livestock (except poultry and animal specialties). ^dIncludes general farms, animal specialty and unclassified types.

from banks was much larger than from the other lenders.

Lenders were relatively optimistic when surveyed in August-September about financial prospects for their farm borrowers in 1980

(table 10). Interest rates were expected to be high, but the demand for loan funds was expected to remain strong. No overall shortage of loan funds for agricultural use was anticipated, but some shifting among lenders was considered likely.

Table 10-Financial condition of U.S. farm borrowers at banks, by type of farm borrower^a

Farm type and item	Estimated change:			Expected change:		
	Mid-1978 to Mid-1979			Mid-1979 to Mid-1980		
	Increase	Decrease	Same	Increase	Decrease	Same
<i>Percent of banks reporting</i>						
All type farms						
Net farm income	65	15	20	53	14	33
Net worth	79	5	16	66	5	29
Repayment ability	45	15	40	39	13	48
Beef feedlots						
Net farm income	71	9	20	47	18	35
Net worth	80	3	17	64	2	34
Repayment ability	47	11	42	33	12	55
Beef, cow-calf farms						
Net farm income	70	13	17	53	13	35
Net worth	78	6	16	64	5	30
Repayment ability	58	11	31	43	14	44
Other livestock farms						
Net farm income	74	11	16	46	24	30
Net worth	84	4	12	63	9	28
Repayment ability	46	14	40	34	21	45
Dairy farms						
Net farm income	69	12	19	54	11	35
Net worth	84	4	12	70	3	27
Repayment ability	48	12	40	38	11	51
Cash grains farms						
Net farm income	54	20	26	58	12	30
Net worth	74	7	19	69	5	26
Repayment ability	34	20	46	42	11	47

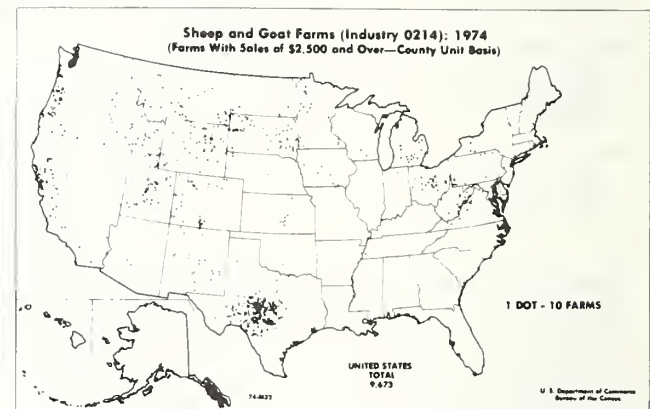
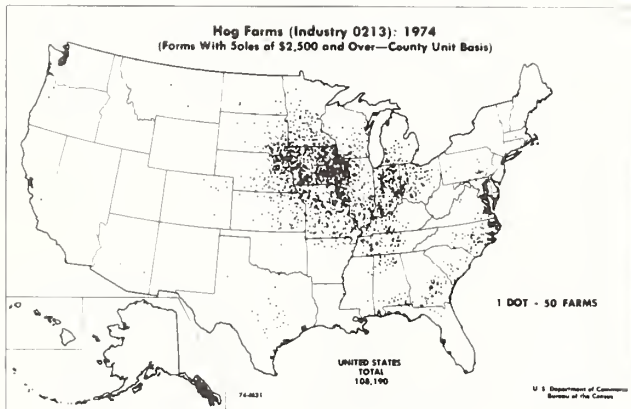
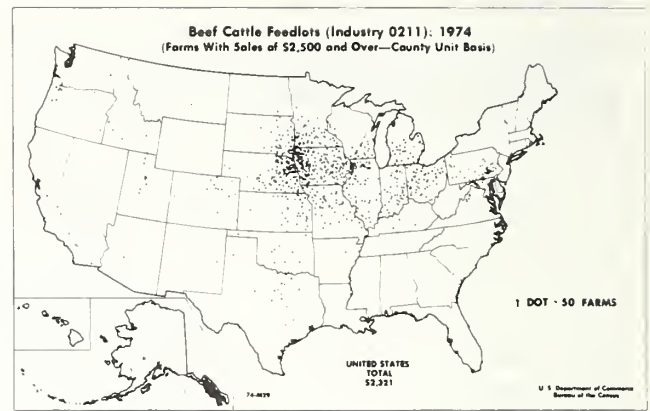
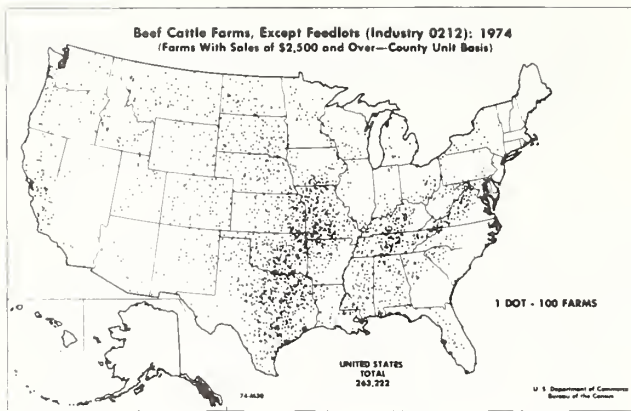
^aCommercial bank survey respondents in the American Bankers Association survey were asked to indicate the change that had occurred or that they expected to occur, in their borrowers' net farm income, net worths, and loan repayment ability. Survey was in August-September, 1979.

LIVESTOCK FARMS

Cattle Feeding Outlook for 1980

The financial condition of cattle feeders is expected to be less favorable in 1980 than in the good 1979 year due to higher prices of feeder calves and slightly higher feeding costs relative to the prices received for fed cattle marketed. Prices for fed cattle during 1980, especially early in the year, will be under some pressure from large supplies of pork and other competing meats. For the year, fed cattle prices will likely average slightly more than during 1979. During the first half of 1980, feeding profits are expected to be nil to slightly positive and to become more favorable in the cost half (figure 7).

After several years of liquidation, cow-calf herd rebuilding began in 1979 and is expected to continue in 1980. Producers reported in July 1979 that they would hold 8 percent more beef heifers for herd replacement than a year ago. Also, cow slaughter through September 1979 was 34 percent below a year ago. These changes should allow a slightly higher cattle inventory on January 1, 1980 with a further buildup expected through the year. Thus, competition among feedlot operators for cattle for feedlots will likely keep feeder prices relatively high. High prices for feeders relative to fed cattle prices will tend to reduce profits of cattle feeders during 1980 relative to 1979.



Placements of cattle in feedlots during the first half of 1980 are estimated at 11 million head. This is near the level of 1979 but less than the record of nearly 12 million in 1972. Placements during the last half of 1980 are expected to be slightly above the 14 million head expected to be placed during the last half of 1979.

With continued relatively high levels of placements of cattle on feed during 1980, the demand for loan funds is expected to remain strong. No loan fund shortage is expected, but interest rates will likely remain high. Debt outstanding will decline seasonally after the first of 1980 but will remain above year-earlier levels during most of the year (figure 8). Bankers in general indicated that the repayment ability of cattle feeders will be relatively strong in 1979/80 (table 10).

1979 Financial Conditions

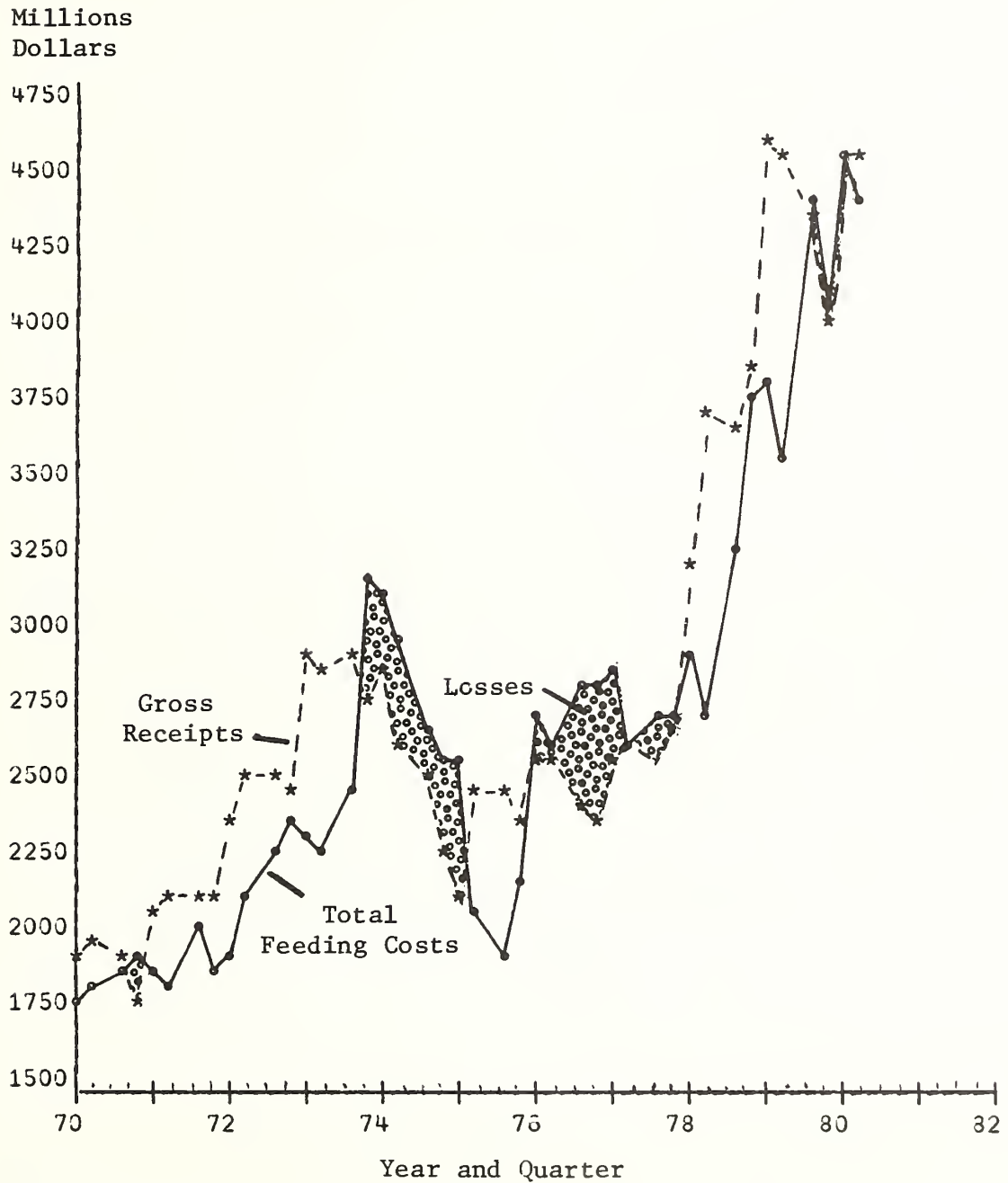
Most cattle feeders made a profit on fed cattle marketed during the first half of 1979, particularly during the second quarter when record profits were made (figure 7). This profitable situation was a continuation of the favorable financial conditions since early 1978. During 1979 there was a sharp

increase in fed cattle prices between January and April, while fed cattle marketed during the first two quarters had been purchased and fed at low costs relative to the value of fed cattle sold.

Subsequently, however, cattle feeders bid up the price of feeder cattle. The higher total costs of production plus lower average prices received for fed cattle marketed of 1979 squeezed profits during the second half of 1979. Losses were experienced by some feeders during the last half. Nevertheless, the financial condition of cattle feeders for 1979 was only slightly below the favorable situation of 1978.

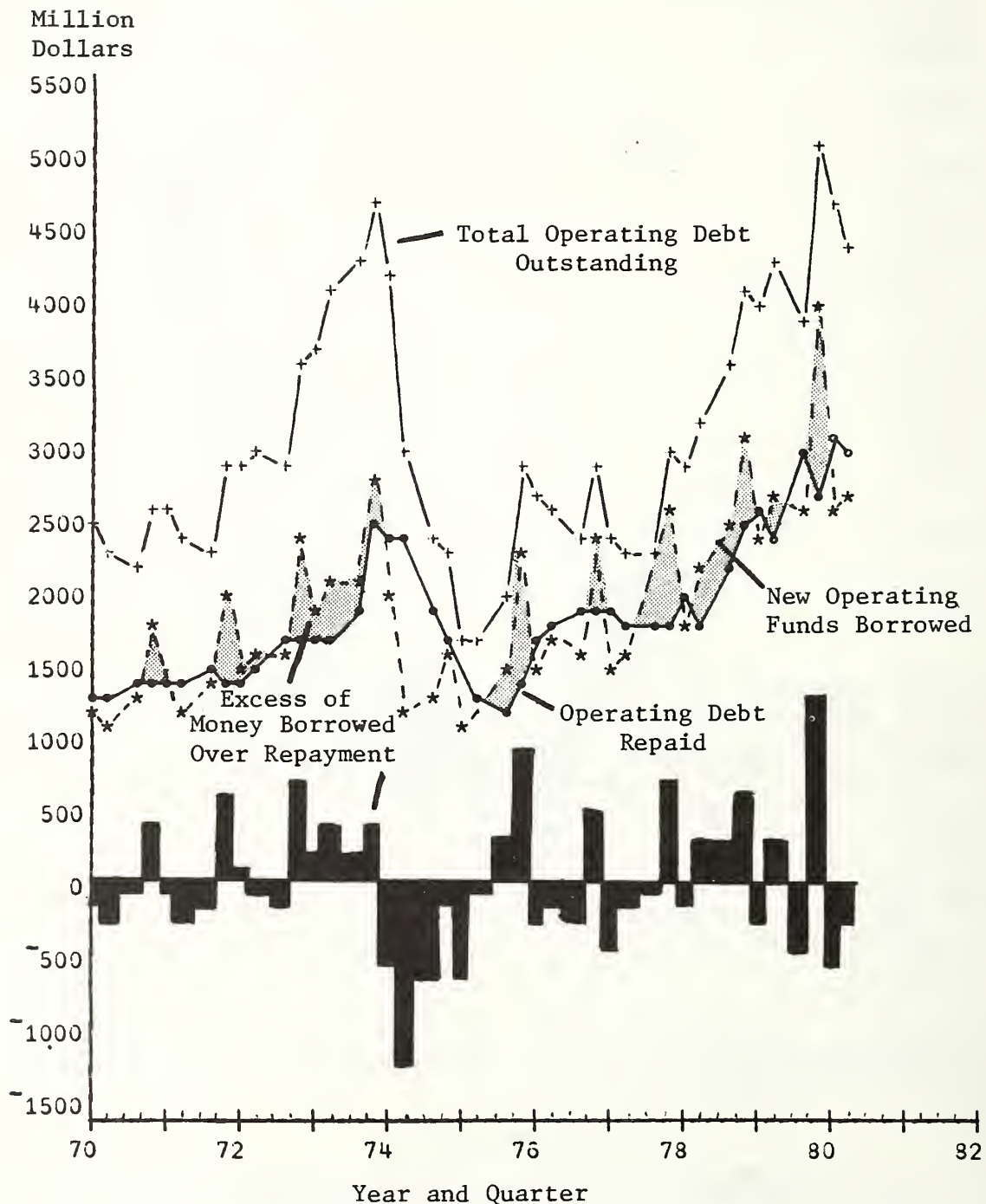
Although the number of cattle placed on feed this fall may be 5-10 percent less than last fall, the higher cost of feed and calves for placement has probably raised the total outstanding debt of cattle feeders to a new high (figure 8). Total operating debt outstanding is estimated to reach \$5.1 billion during the fourth quarter of 1979. The excess of money borrowed over expected repayment during the last quarter is expected to be nearly \$1.2 billion—twice the level of \$0.6 billion for the same period a year earlier. This means that financial institutions serving cattle feeders will experience large increases in the demand for loan funds dur-

Figure 7 Cattle Feeding: Gross Receipts, Total Feeding Costs, Profits and Losses, 23 States, 1970-80



* Based upon Model Specifications (See LMS-209, USDA, June 1976).

Figure 8 Cattle Feeding: Total Operating Debt, Operating Funds Borrowed and Repaid, 23 States, 1970-80



ing the latter part of 1979. However, no shortage of loan funds is anticipated in meeting these needs.

Cow-Calf (Cattle Raising) Outlook for 1980

Most cattle producers will enter 1980 in a favorable financial condition, much improved over January 1, 1979, and especially over the previous 4 years of low net incomes. Their financial conditions through 1980 should remain strong in view of smaller beef supplies and the expected strong demand for beef.

Most commercial bankers indicated they expect net income and net worth positions of cow-calf producers to stay the same or improve from mid-1979 to mid-1980 (table 10). The debt repayment ability of producers was indicated as relatively strong. Although beef prices will be under some pressure from abundant supplies of pork and poultry during 1980, prices for feeder cattle will likely remain relatively favorable, particularly in the second quarter as the grazing season begins.

The buildup in cow herd inventories will continue during 1980. Cow slaughter may increase slightly from the relatively low levels of 1979, with a larger number of older, less productive cows expected to be culled as the number of replacement heifers entering the herd increases.

1979 Financial Conditions

The financial conditions of cow-calf producers improved in 1979 for the second consecutive year after 4 successive years of low net earnings. Prices for feeder calves have been averaging nearly a third more in 1979 than last year, and even though production cost continue to increase, most producers will experience much improved net returns (table 11). As a whole, the equity position of most cattle producers is strong, and the value of their real estate and other physical assets is increasing.

The heavy selloff of cows and heifers for slaughter ended during 1979, reversing the liquidation phase of the cattle cycle. Inventory buildup during the second half of 1979 is increasing as cow and calf slaughter have been reduced. Both heifer slaughter and heifers on feed through mid-1979 were down nearly 15 percent from a year earlier as producers held more heifers for herd replacement. The January 1, 1980, cattle inventory should increase about 1 to 2 percent from the 110.8 million head on farms on January 1, 1979.

Pastures and ranges over most of the Nation on September 1, 1979, were in good to excellent condition. The exceptions were in South Carolina, parts of the Northeast, an area from North Dakota and Wyoming westward, Utah, and Arizona. Near the end of September, fields were dry in the

Southern Plains and grazing conditions were deteriorating.

Hog Outlook for 1980

The economic situation in the first half of 1980 will be much like the unfavorable conditions during the last half of 1979 for hog producers, but net returns to producers will likely improve during the latter half of the year. Hog slaughter during the first half of 1980 is expected to be large relative to the same period in 1979, and prices will likely be well below year-earlier levels.

Lower hog prices during late 1979 and early 1980, combined with feed costs above year-earlier levels, will probably cause producers to cut back farrowings during March-May 1980, with marketings being reduced in the last quarter of 1980.

1979 Financial Conditions

After several years of favorable hog prices and improvement in the financial position of hog producers, the expansion in hog production and resulting lower prices that many expected to occur in 1978 actually began to materialize in 1979. Hog prices reached nearly \$54 per hundredweight in February 1979, 12 percent above the previous year, declined sharply later in the year as hog slaughter increased and supplies of poultry also expanded.

Prices of hogs during the last quarter of 1979 are expected to average about \$34 per hundredweight, \$16 below the last quarter of 1978. The 1979 March-May pig crop and the September 1, 1979, inventory of market hogs weighing more than 60 pounds suggest that fall-quarter slaughter will exceed previous-year levels by 20 percent or more. Market supplies of hogs are likely to continue large into 1980.

Sheep and Lamb Outlook for 1980

The general financial outlook for sheep and lamb producers continues favorable. No difficulties are expected with respect to sheep and lamb producers receiving loans for their operations. Relatively stable demand and little change in lamb slaughter should result in prices for lambs averaging higher than those of 1979. Lamb prices will continue to be sensitive to the level of imports of lamb and mutton.

Persistent problems with predators and the lack of labor will continue to discourage any rapid expansion of sheep numbers in the United States.

1979 Financial Conditions

The overall financial condition for sheep and lamb producers has remained relatively favorable in 1979 as it has for several years. Prices for choice

Table 11—Average per farm level of debt, equity, and returns on U.S. livestock ranches^a

	Year									
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979 ^e
Average per farm										
Small Farms^b										
Assets (\$)	125,141	130,314	141,651	161,645	198,377	211,556	235,537	262,808	292,097	337,376
Debt (\$)	10,240	10,680	11,500	12,842	14,841	16,508	18,311	20,448	23,141	26,614
Equity (\$)	114,901	119,634	130,151	148,803	183,536	195,048	217,226	242,320	268,956	310,762
Debt/Assets ^c (%)	8.2	8.2	8.1	7.9	7.5	7.8	7.8	7.8	7.9	7.9
Total net return ^d (\$)	1,373	1,532	2,454	3,460	-133	-2,029	-2,302	-2,504	91	3,741
Net return to equity (\$)	-2,078	-2,042	-1,347	-834	-4,928	-7,147	-7,756	-8,215	-1,528	-2,948
Rate of return to equity (%)	-1.8	-1.7	-0.1	-0.6	-2.7	-3.7	-3.5	-3.4	-1.5	-1.2
Medium Farms^b										
Assets (\$)	345,719	360,150	392,164	449,019	545,960	581,694	655,942	719,712	803,769	930,883
Debt (\$)	43,261	45,127	48,625	54,311	62,764	69,791	77,427	86,688	97,921	112,676
Equity (\$)	302,457	315,023	343,539	394,708	483,196	511,903	568,515	633,024	705,848	818,207
Debt/Assets ^c (%)	12.5	12.5	12.4	12.1	11.5	12.0	11.8	12.0	12.2	12.1
Total net return ^d (\$)	4,989	6,915	10,627	15,273	1,869	-5,297	6,020	-6,663	5,372	18,950
Net return to equity (\$)	340	2,102	5,379	9,031	-4,969	-12,348	-13,578	-14,486	-3,234	9,639
Rate of return to equity (%)	0.1	0.7	1.6	2.3	-1.0	-2.4	-2.4	-2.3	-1.5	1.2
Large Farms^b										
Assets (\$)	1,766,083	1,841,084	2,011,408	2,316,657	2,780,407	2,950,190	3,262,474	3,629,406	4,080,086	4,754,055
Debt (\$)	355,946	372,162	403,560	452,230	522,522	578,749	643,657	725,157	819,828	948,850
Equity (\$)	1,410,137	1,468,922	1,607,848	1,864,427	2,257,885	2,371,441	2,618,817	2,904,249	3,260,258	3,805,205
Debt/Assets ^c (%)	20.2	20.2	20.1	19.5	18.8	19.6	19.7	20.0	20.1	20.0
Total net return ^d (\$)	38,447	49,771	93,104	152,538	-31,544	-137,514	-153,293	-171,635	-20,134	160,268
Net return to equity (\$)	23,168	33,945	75,629	131,244	-54,670	-160,964	-178,503	-197,579	-49,047	129,126
Rate of return to equity (%)	1.6	2.3	4.7	7.0	-2.4	-6.8	-6.8	-6.8	-1.5	3.4

^aIncludes ranches in the 17 Western States, Louisiana, Florida, Hawaii, and Alaska, where sales of livestock represent over 50 percent or more of farm cash receipts, and pastureland was at least 100 acres and at least 10 times greater than acres of cropland harvested. ^bBased on data from the 1970 Farm Finance Survey, U.S. Census of Agriculture, but updated to reflect changes in the value and income from farm assets. Small farms are those with annual cash farm receipts from \$5,000 to \$9,999; medium farms from \$20,000 to \$39,999 and large farms of \$100,000 and greater. In 1970, the distribution of farm numbers and cash receipts on livestock ranches by the value of cash receipts was:

Farm No. (%) Farm Cash Receipts (%)

\$100,000 +	5	57
\$ 40,000 - 99,999	9	16
\$ 20,000 - 39,999	13	11
\$ 10,000 - 19,999	17	7
\$ 5,000 - 9,999	24	5
\$ 2,500 - 4,999	32	4

^cDollars of farm debt for each \$100 dollars of farm asset value. ^dNet returns to equity, operator labor, and management. ^ePreliminary.

slaughter lambs during the last quarter of 1979 are expected to be near the mid-\$60's per hundredweight, and for the year lamb prices will average nearly 7 percent above a year ago.

Weekly lamb prices through 1979 have equaled or exceeded those of last year, except during early 1979 when prices took an unseasonably sharp drop. Lamb prices declined from \$75 to \$63 per hundredweight from late January through late

March before rebounding to a seasonal high of nearly \$80 per hundredweight in late April. Probably contributing to downward pressures on lamb prices during early 1979 was about a 30-percent increase in lamb and mutton meat imports during the first quarter of the year. Imports in 1979 contributed about 12 percent to the total lamb meat supply—two-thirds greater than the average 1975-1978 proportion.

DAIRY OUTLOOK FOR 1980

Milk production in 1980 is expected to be about 1 percent above the 1979 level of 123½ billion pounds. Farm milk prices in 1980 should continue to be substantially above year-earlier levels. Despite increased feed prices, returns over feed costs likely will be favorable to dairymen.

Gross returns to milk producers in 1980 should post major gains over 1979, primarily due to higher farm prices and, to a lesser extent, expanded milk marketings. Continuing high prices for slaughter cows expected in 1980 could also supplement cash receipts to dairying operations. However, costs of production items are expected to rise substantially. Higher prices for feed (despite record corn and soybean harvests) and for energy and fuel will constitute major portions of the increase in production expenses. With higher milk prices possibly outweighed by increased costs of production, the net income position of dairy farmers in 1980 could be less favorable than the relatively favorable situation of 1979, unless farm milk prices are stronger than expected or feed prices weaken.

Under current legislation, the Secretary of Agriculture has the authority to set the minimum price support level between 75 and 90 percent of parity. For the 1979/80 marketing year (which began

October 1), the support price is established at 80 percent of parity, or \$11.22 per hundredweight of milk containing 3.5 percent fat (\$11.49 for milk at the national average of 3.67 percent fat content). The Food and Agriculture Act of 1977 requires the support price to be adjusted semi-annually (on April 1) to reflect changes in the Index of Prices Paid by Farmers (the Parity Index). Thus, it is probable the support price for manufacturing grade milk will rise on April 1.

The August-September survey of agricultural lenders in dairy regions reflected a continued optimistic financial outlook for dairy farms for 1980 (table 12).

1979 Financial Conditions

The favorable conditions for most dairy farm enterprises of the last few years continued during 1979. Although production costs have been higher than in 1978, they have been offset by sharply higher milk prices and larger output. This has resulted in a substantial boost in gross income for milk producers.

Cash receipts from dairying for the year have been considerably higher than in 1978. During the third quarter of 1979, cash returns increased

Table 12-Loan portfolio condition of dairy producers who borrow from commercial banks¹

Item	Estimated change:			Expected change:		
	Mid-1978 to mid-1979			Mid-1979 to mid-1980		
	Increase	Decrease	Same	Increase	Decrease	Same
---Percent of banks reporting---						
Rate of loan repayments	30	16	54	33	9	58
Rate of renewals and extensions	29	15	56	20	20	60
Rate of delinquencies 30 days and over . .	8	25	67	7	19	74
Rate of farm losses (charge-offs)	3	21	76	2	19	79
Rate of refinancing	40	8	52	35	11	54
Overall quality of farm loan portfolio . . .	42	6	52	36	4	60

¹ Data were obtained from a survey conducted by the ABA in August-September, 1979.

almost 16 percent from a year earlier, boosted by substantially higher farm milk prices and expanded milk marketings. The year-to-year rise in cash receipts during the first half of 1979 was just slightly less than the increase posted during the summer. If prices rise as expected during the fourth quarter of 1979, cash receipts for the year could exceed \$14.5 billion, up from \$12.7 billion in 1978.

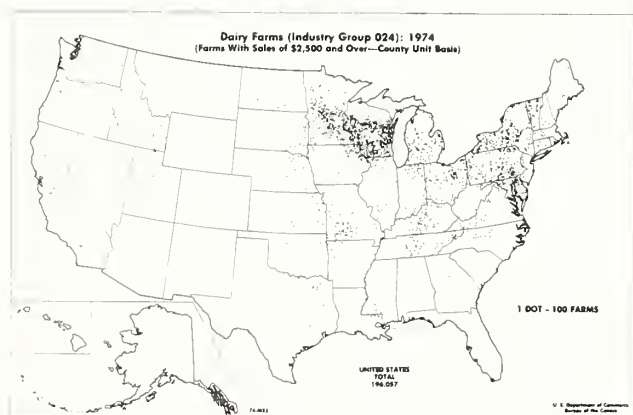
Production costs continue to exceed year-earlier levels, with the index of prices paid for production items up 14 to 15 percent for the first three quarters of 1979. Significantly higher prices for fuels and energy, feeder livestock, and feed contributed to the increase. With both cash receipts and production costs rising at similar rates from a year ago, the net income position for milk producers in

1979 is probably at least as good as the favorable situation of 1978.

An increase of 1.5 percent in the commercial utilization of dairy products (due primarily to larger cheese sales) during the first 8 months of 1979 resulted in a relatively tight supply-demand balance of milk supplies, despite larger milk production. As a result, wholesale butter and cheese prices rose rapidly during the summer to prices substantially higher than the support prices at the time. Both farm prices and retail prices have risen in response to the higher wholesale prices, although year-to-year increases in late 1979 should be moderated by the increased milk production and relatively large commercial stocks.

Dairy farm numbers continue to decline while average herd size increases. Favorable milk-feed price relationships and the relatively large numbers of replacement heifers available have slowed declines in total dairy cow numbers during 1979. Diminished off-farm employment opportunities due to the sluggishness of the general economy have also probably slowed the decline. Conversely, the high slaughter cow prices prevalent during 1979 resulted in pressure for increased reductions in cow numbers.

The recent survey of agricultural lenders indicated that dairy farms in the major dairying areas were having another relatively good year in 1979, with their financial progress comparing favorably with other major farm types (table 10). Equities of farm operators continued to rise during the 1970's, and debt/asset ratios remained constant at relatively low levels (table 13).



POULTRY OUTLOOK FOR 1980

The outlook for poultry producers in 1980 is not favorable. The general economic situation does not look strong and feed prices will be higher. Despite record-large 1979 corn and soybean crops, strong foreign and domestic feed demand likely will result in higher 1980 feed prices than a year earlier.

Broiler producers, in particular, are expected to have an unfavorable year in 1980. Sharply higher pork production in 1980 is expected to hold broiler prices below breakeven levels during much of 1980. If broiler producers are in a price-cost squeeze in the first half of 1980, they will likely drop output below 1979 levels in the second half of 1980.

Egg producers' net returns in 1980 will likely be below 1979 levels. Egg production may only increase 1 percent, but prices will average below 1979 levels. The demand for eggs in 1980 will not be as strong as in 1979 because of the less favorable general economic situation. With feed

prices in 1980 expected to be up and egg prices lower, net returns will decline and producers could suffer sizable losses during the seasonally weak demand periods.

Turkey producers' returns in 1980 will be more favorable if they do not overproduce. However, hatchings of poults in late 1979 indicate there will be a large expansion in turkey production in 1980. Turkey production during the first half may be 20 percent above a year earlier. The larger turkey supply and large poult production are expected to result in turkey prices averaging well below a year earlier in the first half of 1980.

1979 Financial Conditions

Broiler producers had good profit margins during the first half of 1979, despite an increase of over 10 percent in production. However, as pork

Table 13—Average per farm level of debt, equity, and returns on U.S. dairy farms^a

	Year									
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979 ^e
	Average per farm									
Small Farms^b										
Assets	42,606	44,455	48,174	54,711	65,504	70,081	78,267	86,618	96,632	110,998
Debt	5,879	6,142	6,652	7,450	8,608	9,542	10,607	11,935	13,490	15,595
Equity	36,726	38,313	41,522	47,261	56,896	60,539	67,660	74,683	83,142	95,403
Debt/Assets ^c	13.8	13.8	13.8	13.6	13.1	13.6	13.6	13.8	14.0	14.0
Total net return ^d	3,356	3,364	3,518	3,653	2,779	3,271	4,478	4,911	5,692	6,950
Net return to equity	-497	-625	-744	-1,209	-2,630	-2,466	-1,642	-1,490	-1,194	-562
Rate of return to equity	-1.4	-1.6	-1.8	-2.6	-4.6	-4.1	-2.4	-2.0	-1.4	-0.1
Medium Farms^b										
Assets	112,397	117,269	127,004	144,311	173,290	186,167	207,918	230,083	256,312	295,567
Debt	27,612	28,833	31,154	34,847	40,269	44,699	49,644	55,735	62,981	72,658
Equity	84,784	88,436	95,850	109,464	133,021	141,468	158,274	174,384	193,331	222,909
Debt/Assets ^c	24.6	24.6	24.5	24.1	23.2	24.0	23.9	24.2	24.6	24.6
Total net return ^d	10,767	10,799	11,119	10,447	8,279	9,830	14,114	15,330	17,855	22,439
Net return to equity	4,585	4,398	4,161	2,223	-752	479	4,097	4,939	6,470	10,102
Rate of return to equity	5.4	5.0	4.3	2.0	-0.6	0.3	2.6	2.8	3.3	4.5
Large Farms^b										
Assets	507,805	530,351	575,913	657,020	786,772	833,146	933,211	1,035,749	1,163,801	1,341,998
Debt	146,079	152,739	165,644	185,632	214,485	237,549	264,202	297,688	336,558	389,564
Equity	361,726	377,612	410,269	471,388	572,287	595,597	669,009	738,061	827,243	952,434
Debt/Assets ^c	28.8	28.8	28.8	28.3	27.3	28.5	28.3	28.7	28.9	29.0
Total net return ^d	43,263	42,647	42,998	28,631	1,037	11,363	43,354	53,808	67,850	96,604
Net return to equity	25,961	24,729	23,407	5,210	-24,575	-14,951	15,130	24,600	35,663	61,804
Rate of return to equity	7.2	6.5	5.7	1.1	-4.3	-2.5	2.3	3.3	4.3	6.5

^aFarms with dairy products accounting for more than 30 percent of value of products sold. ^bBased on data from the 1970 Farm Finance Survey, U.S. Census of Agriculture, but updated to reflect changes in the value and income from farm assets. Small farms are those with annual cash farm receipts from \$5,000 to \$9,999; medium farms from \$20,000 to \$39,999 and large farms of \$100,000 and greater. In 1970, the distribution of farm numbers and cash receipts on dairy farms by the value of cash receipts was:

Farm No. (%) Farm Cash Receipts (%)

\$ 100,000 +	2	16
\$ 40,000 - 99,999	12	26
\$ 20,000 - 39,999	32	35
\$ 10,000 - 19,999	29	17
\$ 5,000 - 9,999	17	5
\$ 2,500 - 4,999	8	1

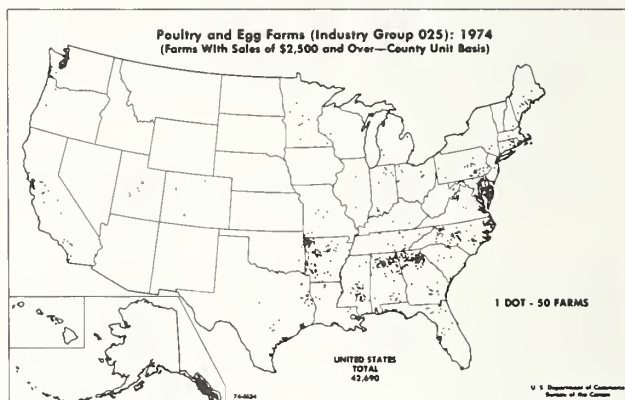
^cDollars of farm debt for each \$100 dollars of farm asset value. ^dNet returns to equity, operator labor, and management. ^ePreliminary.

supplies increased sharply in the summer and broiler production continued strong, broiler producers began to lose money. By the fall of 1979, producers were in a severe cost-price squeeze. The losses in the second half of 1979 offset much of the first-half profits.

Egg producers' returns in 1979 were generally positive but showed considerable fluctuations throughout the year. Profits were good in the first quarter and were even positive in the seasonally weak demand period in the spring. However, lower than expected summer egg prices resulted in negative returns. Egg production was up almost 3 percent in the first three quarters but slipped to about 2 percent over a year earlier.

Although output was about 10 percent above a year earlier, turkey prices in 1979 were unexpectedly strong. Prices weakened in the first half but fall prices were stronger than expected. Even with lower prices and higher production

costs, good profits were realized by turkey producers, with the largest gains in the first half. This is the second year that turkey producers' profits have been excellent.



CASH GRAIN FARMS

Grain Outlook for 1980

Net incomes of cash grain borrowers of bank increased from mid-1978 to mid-1979, and some further improvement was expected over the next 12 months (table 10). Net worth gains have been widespread and are expected to continue into next year. However, most of the Federal intermediate credit bank (the supervisory agency for the PCA's) reporters expected that net incomes and net worths of cash grain farmers would not be as favorable in 1980 as in 1979.

The overall quality of the loans of cash grain producers was indicated by the bankers to have improved during 1978/79, and some further

improvement is expected (table 14). Delinquency rates and losses on farm bank loans—both very minimal portions of total loans—were declining. Delinquencies were expected to decline a little further in 1979/80, while losses on loans may remain about the same.

Some increase was reported in rates of refinancing and in renewals and extensions on bank loans in 1978/79. This was accompanied by some reduction in the rate of loan repayments. Refinancing may decline some in 1979/80 while repayments rise. Bankers feel that the financial condition of their cash grain borrowers is about in line with the stronger grain prices and net incomes

Table 14—Loan portfolio condition of cash grain producers who borrow at commercial banks¹

Item	Estimated change:			Expected change:		
	Mid-1978 to mid-1979			Mid-1979 to mid-1980		
	Increase	Decrease	Same	Increase	Decrease	Same
---Percent of banks reporting---						
Overall quality of loans	33	9	58	36	5	59
Rate of refinancing	39	9	52	30	15	55
Rate of renewal or extension	32	14	54	17	31	52
Rate of loan repayments	20	24	56	34	10	56
Rate of delinquencies						
30 days and over	10	19	71	8	20	72
Dollar losses on farm loans						
(charge-offs)	4	15	81	5	14	81

¹ Data were obtained from a survey conducted by the ABA in Aug.-Sept. 1979.

experienced generally by cash grain farmers. The reports at times noted the rising production costs facing cash grain producers for 1980.

Demand is strong for loan funds by cash grain producers. Two-thirds of the bankers reported increases in their nonreal estate loan volume in 1978/79, and 60 percent expected further increases next year. Demands were strongest for general operating loans and for farm machinery and equipment loans. There seemed little indication of a shortage of loan funds from banks. All of the Federal intermediate credit banks reporting cash grain farms among their major customers indicated credit demands had increased in 1979, with further increases expected next year.

1979 Financial Conditions

Despite the record 1979 grain supply, strong foreign and domestic demand is resulting in higher grain prices. Wheat and feed grain prices are expected to be higher in 1979/80 than in 1978/79 (table 15). Soybean prices have changed little while

rice prices have declined. The overall index of prices received for grains shown in table 15 increased 24 percent from September 1978 to September 1979.

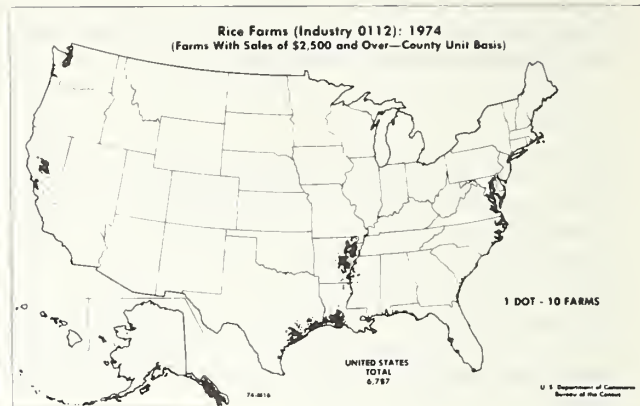
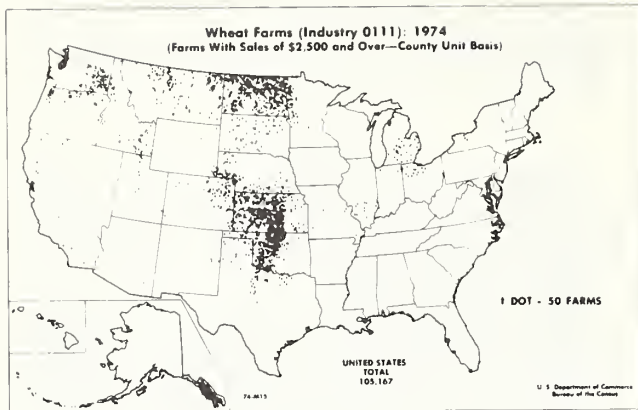
Wheat

The 1979 U.S. wheat crop is estimated at a near-record of 2.1 billion bushels, the result of an 8-percent increase in total planted acreage and excellent winter wheat yields.

Prospects for foreign wheat production have deteriorated since May. In particular, the USSR's crop is now expected to be well below last year's record harvest. The total 1979/80 world wheat crop is forecast about 9 percent short of 1978/79's record. Smaller crops are expected in Canada, West and East Europe, and Australia. With world wheat usage estimated close to last year's record level and smaller world supplies, U.S. exports are likely to be larger and prices stronger in 1979/80. U.S. exports of wheat in 1979/80 are expected to reach a new high of about 1.4 bushels. Transportation and

Table 15-Average prices received by farmers, loan support, and target price for food and feed grains

	Marketing year			1979		
	1977/78	1978/79	1979/80 (estimated)	Aug. 15	Sept. 15	Oct. 15
WHEAT						
Average price received by farmers	2.33	2.94	3.60-3.90	3.71	3.84	3.90
Loan support (\$/bu.)	2.25	2.35	2.35			
Target price (\$/bu.)	2.90-2.47	3.40	3.40			
RICE						
Average price received by farmers (\$/cwt.)	9.49	8.00	8.75-9.75	8.92	9.65	10.20
Loan support (\$/cwt.)	6.19	6.40	6.79			
Target price (\$/cwt.)	8.25	8.53	9.05			
CORN						
Average price received by farmers	2.02	2.20	2.35-2.65	2.49	2.50	2.42
Loan support (\$/bu.)	2.00	2.00	2.00			
Target price (\$/bu.)	2.00	2.10	2.20			
SORGHUM						
Average price received by farmers	1.82	2.00	2.20-2.45	4.30	4.02	4.03
Loan support (\$/bu.)	1.90	1.90	1.90			
Target price (\$/bu.)	2.28	2.28	2.34			
BARLEY						
Average price received by farmers	1.78	1.90	2.20-2.40	2.13	2.32	2.34
Loan support (\$/bu.)	1.63	1.63	1.63			
Target price (\$/bu.)	2.15	2.25	2.40			
OATS						
Average price received by farmers	1.10	1.18	1.25-1.45	1.24	1.28	1.30
Loan support (\$/bu.)	1.03	1.03	1.03			
Target price (\$/bu.)	—					
SOYBEANS						
Average price received by farmers	6.81	6.75	6.25	6.91	6.87	6.21
Loan support (\$/bu.)	3.50	4.50	4.50			



labor problems are limiting wheat exports from other exporting countries. Thus, the United States will account for most of the expansion in world wheat exports this season.

Farm prices of wheat started to advance in May, reflecting weather-related problems in the United States and the world, limited producer selling, dwindling carryover stocks, prospects for expanded export sales, and concern about increasing transportation problems. For 1979/80, farm wheat prices will likely average between \$3.60 and \$3.90 a bushel, compared with \$2.94 in 1978/79. In 1978/79, total wheat disappearance topped 2 billion bushels for the first time. Domestic use was up a little and exports were a record, up 6 percent from 1977/78. The result was a sharp drawdown—21 percent or 252 million bushels—in the yearend wheat stocks, the first decline in 5 years.

Rice

Encouraged by a brighter price outlook at planting time, U.S. rice growers seeded slightly more than 3 million acres in 1979. Aided by relatively favorable growing conditions, the 1979 rice crop is expected to total about 138 million hundredweight (cwt.), 3 percent more than last year's record. With beginning stocks of 32 million cwt., total supplies for 1979/80 are estimated at a record 169 million cwt.

Even so, total 1979/80 disappearance—currently estimated at about 134 million cwt.—could nearly match the 1979 production. Domestic consumption should rise about 5 percent, due to increased food use and another strong year for brewery use. Another record export year is likely because of increasing demand for quality rice in selected international markets, including Korea.

P.L. 480 shipments are expected to increase because of insufficient supplies in some developing countries that have high per capita rice use. Total P.L. 480 business in 1979/80, including shipments

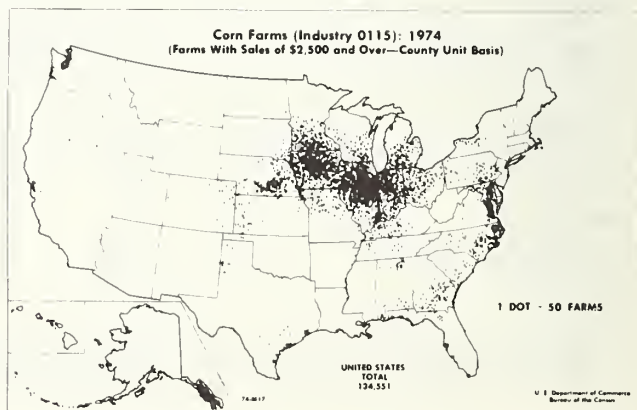
carried over from 1978/79, could be one-fifth above last year.

Ending stocks in August 1980 are expected to total around 36 million cwt., 14 percent above the 1978/79 carryover. Free stocks of rice may increase modestly, while CCC inventories may decline by about 2 million cwt. from the 8 million cwt. on hand at the beginning of the year. CCC stocks are being used for export donation programs.

For the 1979/80 marketing year, rice prices should average between \$8.75 and \$9.75 cwt., compared with \$8.00 cwt. in 1978/79 and \$9.49 cwt. the year before. In the first 5 months (August-December) of this marketing year, farm prices may average slightly below the target price of \$9.05, making allotment holders eligible for deficiency payments.

Corn

Corn prices are expected to average \$2.35 to \$2.65 per bushel in 1979/80, compared with \$2.20 in 1978/79. The record corn crop, coupled with the large carryover, will raise corn supplies for 1979/80 to about 8.7 billion bushels, about 4 percent larger than the record 1978/79 supply.



Domestic use of corn will increase moderately in 1979/80 due mainly to expansion of hog and poultry feeding. However, higher feeding costs may dampen expansion in feeding in the latter part of the feeding year. Exports in 1979/80 are forecast to be up sharply from the 1978/79 record. Domestic use and exports together will be around 8 percent more than in 1978/79. This would leave a carryover on October 1, 1980, of about 1.2 billion bushels, about 50 million bushels less than stocks at the start of the year.

Sorghum

Sorghum prices received by farmers during the 1979/80 season will probably average \$2.20 to \$2.45 per bushel, compared with \$2.00 in 1978/79. Sorghum exports in 1979/80 are expected to be about 250 million bushels, up from the 200 million bushels in 1978/79. Sorghum feeding in 1979/80 will probably be a little less than the 573 million bushels fed in 1978/79.

Soybeans

With a record U.S. soybean supply and a prospective sharp buildup in carryover stocks, soybean prices to producers probably will average around \$6.25 per bushel, compared with the 1978/79 season average of \$6.75 per bushel. This forecast reflects the expected sharp increase in South American soybean supplies next spring and good oilseed crops in other major-producing areas of the world.

The 1979 U.S. soybean crop is placed at a record 2.21 billion bushels, 18 percent larger than the 1978 crop. Both acreage (70 million acres harvested) and yield (31.5 bushels per acre) are at new highs, up 11 percent and 7 percent, respectively.

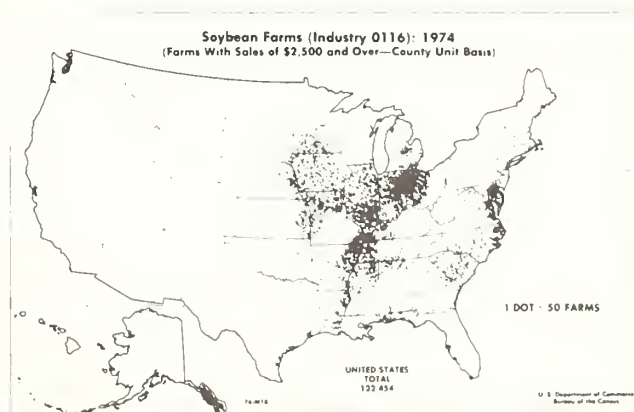
Demand for soybeans and products will continue strong in 1979/80. American farmers are the only major producers with large quantities to sell until next spring when South American crops enter world markets. Record U.S. supplies of 2.4 billion bushels and lower prices are expected to boost total soybean use to around 2.0 billion bushels, 8 percent above last season. Both domestic crush and exports are expected to increase in 1979/80, but not nearly as much as supply. Consequently, U.S. soybean carryover stocks on September 1, 1980, may rise around 380 million bushels, more than double the 173-million-bushel level of September 1, 1979.

Soybean crushings for 1979/80 are expected to total around 1.1 billion bushels, compared with the 1.02 billion in 1978/79. This rise mainly reflects the prospective increase in soybean meal feeding because of higher hog and poultry production and slightly lower meal prices.

Exports of U.S. soybeans for 1979/80 are projected at around 825 million bushels, a new high and a tenth more than the 753 million shipped last season. Slightly lower U.S. prices and increased meal and oil demand overseas will provide the impetus, despite increased competition from South American soybeans and meal during April-August 1980.

Increased demand for protein meals in 1979/80 is expected in both Western Europe and Japan as feeding of hogs and poultry continues to expand. Also, the USSR is expected to import about 55 million bushels of soybeans this marketing year, up slightly from 1978/79. The Soviets have become a regular importer of U.S. soybeans in recent years, reflecting improved livestock feeding practices and short sunflowerseed crops.

The various supply, demand, and price factors for the different grains that have been discussed are the major influences that determine the financial position of cash grain producers in the Nation. Estimates of selected income, asset, and debt items are shown in table 16 for cash grain farms of three different sizes over the last decade. Despite the ebb and flow of farm income over the years and the resulting variations in net incomes and in returns to equity, it is evident that the rising value of assets (land together with other assets) continuously carried average equities higher and higher.



COTTON

1980 Outlook

Further improvement in the cash flow situation of cotton farmers in 1980 over 1979 is not likely. In

1979, the general financial position of cotton producers improved substantially over 1978 and other recent years. Also, per acre production costs

Table 16—Average per farm level of assets, debt, equity, and returns on U.S. cash grain farms^a

	Year									
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979 ^e
Average per farm										
Small Farms ^b										
Assets										
Debt	78,311	81,449	87,344	98,984	99,010	135,839	151,947	168,368	183,607	208,483
Equity	10,511	10,958	11,784	13,148	15,196	16,918	18,755	20,958	23,668	27,185
Debt/Assets ^c	67,799	70,491	75,560	85,836	111,376	118,921	133,192	147,410	159,939	181,298
Total net return ^d	13.4	13.5	13.5	13.3	15.3	12.5	12.3	12.4	12.9	13.0
Net return to equity	4,592	4,586	4,890	8,244	12,464	9,741	8,234	6,536	6,861	7,344
Rate of return to equity	411	258	258	3,940	6,571	3,507	1,581	-417	-631	2,948
Medium Farms ^b										
Assets										
Debt	215,249	223,682	240,115	273,905	351,986	375,635	419,635	464,278	506,356	575,722
Equity	30,152	31,652	33,961	37,963	43,870	48,735	54,099	60,662	68,537	78,977
Debt/Assets ^c	185,097	192,030	206,154	235,942	308,116	326,900	365,536	403,616	437,819	496,745
Total net return ^d	14.0	14.2	14.1	13.9	12.5	13.0	12.9	13.1	13.5	13.7
Net return to equity	16,649	16,949	17,657	55,415	48,875	38,361	36,631	25,452	26,155	28,952
Rate of return to equity	10,380	10,458	10,546	26,787	39,559	28,813	22,385	14,862	14,458	16,315
Large Farms ^b										
Assets										
Debt	1,035,771	1,077,478	1,155,025	1,309,521	1,680,376	1,800,289	2,016,095	2,235,988	2,444,722	2,771,353
Equity	168,986	176,258	189,856	212,020	245,025	272,510	302,291	338,336	382,156	439,608
Debt/Assets ^c	866,785	901,220	965,169	1,097,501	1,435,351	1,527,779	1,713,804	1,896,752	2,062,566	2,331,745
Total net return ^d	16.3	16.4	16.4	16.2	14.6	15.1	15.0	15.1	15.6	15.9
Net return to equity	72,549	75,610	76,074	182,830	265,331	201,636	166,225	119,442	116,599	135,308
Rate of return to equity	52,462	54,804	53,156	154,491	285,096	170,876	133,176	85,368	78,750	94,500
	6.8	6.1	5.5	14.1	16.4	11.2	7.8	4.5	3.8	4.1

^aFarms on which 50 percent or more of farm cash receipts are from crops of corn, sorghum, small grains, soybeans for beans, cowpeas for peas, dry field and seed beans, or peas. ^bBased on data from the 1970 Farm Finance Survey, U.S. Census of Agriculture, but updated to reflect changes in the value and income from farm assets. Small farms are those with annual cash farm receipts from \$5,000 to \$9,999 in 1970; medium farms from \$20,000 to \$39,999 in 1970 and large farms of \$100,000 and greater. In 1970, the distribution of farm numbers and cash receipts on cash grain farms by the value of cash receipts was:

Farm No. (%)	Farm Cash Receipts (%)
\$ 100,000 +	1
\$ 40,000 - 99,999	8
\$ 20,000 - 39,999	19
\$ 10,000 - 19,999	25
\$ 5,000 - 9,999	9
\$ 2,500 - 4,999	23
	4

^cDollars of farm debt for each \$100 dollars of farm asset value. ^dNet returns to equity, operator labor, and management. ^ePreliminary.

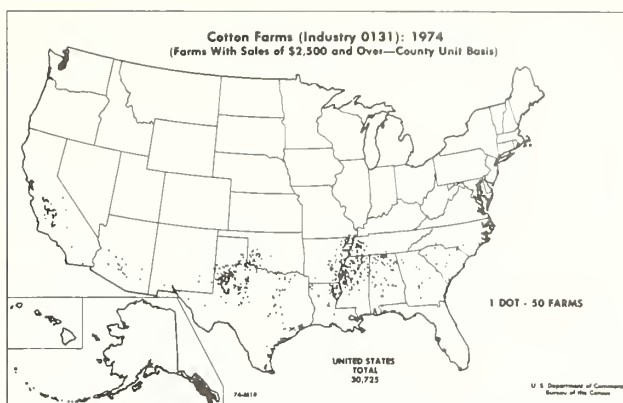
will probably rise in 1980, and the U.S. average yield is not likely to exceed the 528 pounds of lint per acre harvested in 1979.

Carryover stocks by August 1, 1980, are expected to total around 5.7 million bales. It is early to talk about planting intentions and cotton prices for 1980, but even if total cash receipts from cotton in 1980 are about the same as 1979, net returns from cotton will probably not match the 1979 level because of higher expenses.

Cotton farmers who use borrowed funds will likely pay higher rates of interest in 1980 than in the first three quarters of 1979. Although interest rates in 1980 will be higher than in 1979, there is no expectation of shortages of loan funds except possibly in some localized situations. However, more borrowers than usual may find it necessary to locate sources of loans different from their customary lenders. If any shortage of loans does develop, as always the better producers and credit risks will likely be served first and more completely.

1979 Financial Conditions

Yields averaging 528 pounds per acre from 13.1 million acres harvested will produce 14.4 million bales in 1979. Consequently, U.S. carryover stocks



next August 1 may rise nearly 2 million bales. That 5.7 million bale inventory at the beginning of a harvesting season will be the largest since 1970.

Even with the significantly increased production in 1979, it is still evident that cotton, once the undisputed king of crops in many southern and Delta States, is continuing its shift to the Southwest and West (tables 17 and 18). More profitable alternative crops, such as corn and soybeans, and cow-calf enterprises in the South, plus the advantage of a lower cost of producing a

Table 17-Upland cotton: Acreage, yield per acre, production and average cost of production by region, 1978-79¹

Item	Region								U.S.	
	Southeast		Delta		Southwest		West			
	1978	1979	1978	1979	1978	1979	1978	1979	1978	1979
Acreage (1,000 acres) ..	574	626	2,650	2,325	7,076	7,750	1,994	2,271	12,294	12,972
Yield (lbs. lint per acre)	473	480	498	553	501	395	724	962	420	527
Production (1,000 bales)	566	627	2,751	2,680	4,436	6,385	3,010	4,551	10,763	14,243
Production costs (cents per lb. of prod.) ²	61	---	58	---	57	---	66	---	60	54

¹ 1979 data preliminary. ² Excludes land and management charges.

Table 18-All cotton: Percent of harvested acres and production by region
Selected years, 1940-79

Region	1940-49 average		1950-59 average		1960-69 average		1970-79 average	
	Harvested acres	Production	Harvested acres	Production	Harvested acres	Production	Harvested acres	Production
Percent								
West	4	8	8	19	11	20	14	26
Southwest	43	30	45	31	50	34	48	35
Delta States	30	38	28	32	32	33	29	31
Southeast	23	24	19	17	17	13	9	8
United States	100	100	100	100	100	100	100	100

pound of cotton in parts of the southwestern and western States, all contribute to the shifting cotton area.

Some of the costs in areas other than the southern States may increase in the future, however, because of questionable long-range supplies and costs of irrigation water in parts of Texas, Arizona, and California. Even so, it will likely take much higher prices for cotton than presently received by farmers for the shift to reverse itself. Besides the existence of more profitable farming alternatives in the Southeast and in the Delta States, the disappearance of ginning and warehouse storage facilities through depreciation and obsolescence in those States, will

mean very large equipment outlays to replace those capital items, costs that in many instances are now considered prohibitive and which doubtless will become even more costly several years hence.

The total value of cotton produced in 1979 is estimated at \$3.6 billion to \$3.8 billion, compared with about \$3.1 billion for the 1978 crop. The increase over 1978 is due primarily to the 25-percent gain in average yield per acre. So far this season, the average price per pound for cotton has held above 1978 (table 19). Forward contracting for sale in 1979 paralleled closely the experience in 1978, except in the Far West where the practice during 1979 was more gradual compared with the early surge of contracting in 1978.

Table 19-Average price received for upland cotton by farmers and volume of upland cotton contracted for sale by region, by months, 1978-79

Month	Average price received by farmers on 15th of month, U.S.		Volume of upland cotton contracted for sale by end of month, 1978 and 1979									
			Southeastern		South central		Southwestern		Far West		U.S.	
	1978	1979	1978	1979	1978	1979	1978	1979	1978	1979	1978	1979
	<i>Cents per lb.</i>					<i>Percent</i>						
February	51.4	53.7	1	5	6	15	2	7	15	13	5	10
March	51.1	52.7	2	6	11	16	6	7	29	16	10	11
April	52.2	51.3	3	8	14	17	6	8	28	16	12	11
May	53.7	54.6	5	9	21	19	8	8	33	16	16	12
June	54.8	58.1	5	11	23	24	9	10	33	20	16	14
July	56.5	59.8	5	11	23	24	9	10	33	22	16	15
August	57.4	59.0	12	12	33	31	10	12	33	32	19	19
September	56.2	58.5	15	14	35	33	11	14	35	36	21	21
October	59.6											

VEGETABLE FARMS

1980 Outlook

While producers of fresh market vegetables will end 1979 in good financial condition, larger crops, continued labor disputes, and transportation difficulties are expected to affect them adversely in 1980. Price increases probably will average less than the current rate of inflation, and growers' financial positions will be less favorable than in 1979.

Producers of processing vegetables have been in a good financial condition during the last half of 1979 and this will continue at least through the first half of 1980. Potato producers will probably have a rosier financial picture in the spring of 1980 than they had for the past 2 years. Dry bean producers probably will be in good financial condition during 1979/80.

Changes are still proposed to limit acreage under irrigation by individual firms within Federal

water project areas in the 17 Western States. The proposed regulations limit individual farm size to 960 acres (combined ownership and leasehold). Especially affected would be tomato, lettuce, and melon growers in western Fresno County, California, and Federal water projects in Washington and Idaho where farm sizes often exceed this acreage limit.

The settling of the labor strike in California will bring higher wages to labor union members, many of them working on vegetable farms in the Salinas and Imperial Valleys. Vegetable growers will have to assess the impact of the higher labor costs on the choice of crop mix in California.

1979 Financial Conditions

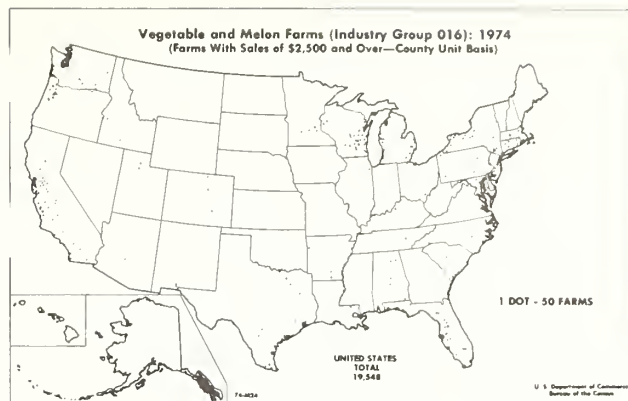
Fresh market vegetables: Producers of vegetables for fresh market had a good year in 1979. Prices to growers during the first quarter were at

record-high levels and the volume marketed was down only 10 percent from a year earlier. Prices dipped below year-earlier levels during the second quarter and are expected to average slightly less in the third. However, for the year, prices to growers of fresh market vegetables are expected to average about 5 percent higher than in 1978.

The small decrease in grower prices this summer was the result of larger supplies. Production of winter vegetables in 1979 was up 2 percent; spring production was up 3 percent. These increases more than offset a decline in imports (mostly from Mexico) of 1 percent. In view of increases in planted acreage and good growing weather over nearly all production areas during the third quarter, production of fresh summer vegetables probably was also above year-earlier levels.

As a result of large crops and only slightly lower prices, f.o.b. values of fresh vegetables totaled \$1.2 billion during the first half of 1979, slightly more than a year earlier and sharply higher than the \$879 million in 1977. For the last half of 1979, the values of fresh market vegetables are expected to be about the same as last year. Strawberries, on the other hand, were down in acreage and up in price, with the value of production in 1979 up by 14 percent over 1978.

Processed Vegetables: Raw tonnage of seven major processing vegetables in 1979 is expected to be 11 percent larger than in 1978. Much of the increased tonnage is accounted for by the larger California tomato crop, but there is heavier production of all major processing crops except sweet corn and pickles. These gains indicate larger supplies of canned and frozen vegetables during the 1979/80 marketing year. Despite the larger supplies, growers have been contracting for higher prices than in 1978. In California, tomato growers



received \$2.50 per ton more this year than last, despite a larger acreage of tomatoes for processing in 1979. Total receipts from sales of vegetables for processing should average higher than in 1978.

Potatoes: The U.S. fall potato crop, at 300.3 million cwt. was moderately smaller than last year's record. However, the market still feels the effect of last year's large crop, and prices for table stock are low.

Processor demand for potatoes is expected to be down slightly in 1979/80 because inventories of frozen potato products are large. However, with prices for table stock low, movement into marketing channels should be good through the winter of 1979/80. Grower prices will improve during the first quarter of 1980.

Dry Beans: The 1979/80 dry bean crop, currently estimated at 18.7 million cwt., is 3 percent smaller than in 1978/79. Grower prices this fall will average moderately more than the \$16.30 per cwt. received in 1978, perhaps rising to an average of \$20-\$22.00.

FRUIT AND NUT FARMS

1980 Outlook

Fruit and nut growers in general can expect a favorable year in 1980, but they may not enjoy a year as good as in 1979. Bankers in Florida, Washington, and California responding to the outlook conditions survey indicated that the net income and net worth of fruit and nut producers would be near or below 1979 levels. Almond and walnut growers can expect some drop in crop value in 1980 from the good 1979 crop. There is no indication of better wine grape prices for 1980, either.

1979 Financial Conditions

Financial conditions for most fruit and nut producers are excellent. The 1978/79 season was

another banner year for most fruit and tree nut growers. In view of the larger production and relatively firm prices in prospect, the outlook for fruit and tree nut growers is generally very favorable in the 1979/80 season. The total value of 1978 noncitrus fruit production amounted to \$3.1 billion, up 11 percent from 1977, while the value of the 1978/79 citrus crop totaled \$1.8 billion, an increase of 14 percent from the previous season. The total value of tree nut production increased to \$621 million, 12 percent more than 1977.

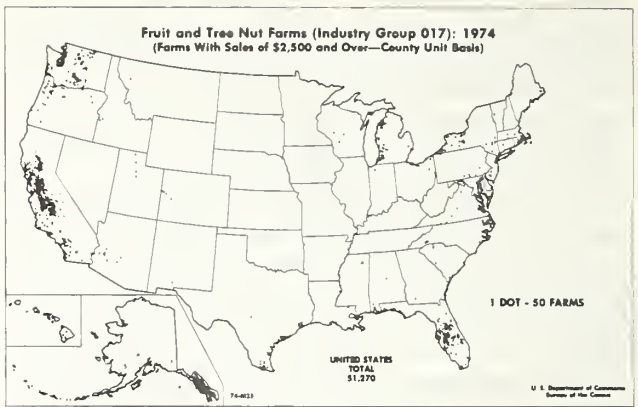
Generally good demand and smaller supplies of many fruits and tree nuts have pushed prices received by growers higher in 1979. Adverse weather in 1978, coupled with the stress suffered by trees during the 1976 and 1977 drought,

seriously reduced crops of nearly all noncitrus fruits and tree nuts in California during 1978. In addition, the January 1979 freeze in California and Texas sharply reduced the citrus crops there. Smaller supplies of fruit from the West have also contributed to higher prices for most fruit in other areas.

The October 1 forecast for this year's noncitrus production is 12.2 million tons, up about 4 percent from last year and 8 percent larger than 1977. Production is expected to be larger for all noncitrus fruit except apples and tart cherries. As a result, f.o.b. prices for most summer fruits averaged lower than a year ago. But prices of most fruits for processing use were generally above year-earlier levels.

The 1979 commercial apple crop is forecast at about 7.6 billion pounds, 1 percent below last year's record. Apple prices received by growers are expected to be relatively firm. Apple demand from major processors is expected to be good as current stocks of most canned and frozen apple items are moderately below a year ago. Prices offered by major packers for processing apples are moderately above year-earlier levels. In addition, exports during the 1979/80 season look favorable because the apple crop in Canada is expected to be smaller. Exports to the Far East and Middle East also look encouraging. However, the record orange crop could exert some downward pressure on apple prices.

The Nation's grape crop is forecast at a record 4.74 million tons, with a 4-percent larger crop than last year's from California. Total grape production in other States is estimated at 438,800 tons, down one-fifth from 1978, mainly because of a sharp decrease in Washington's production. Wine grape prices may average lower than a year ago, with red varieties down in price and white varieties steady, and a winery crush similar to a year ago. Rising wine inventories have put pressure on prices. Compared to the 1978 rain-damaged crop, the 1979 raisin tonnage is much higher, although prices are



down, providing a good year for raisin growers. Table grape growers have enjoyed good, steady prices and high quality and yield.

The first forecast of the 1979/80 citrus crop (excluding grapefruit in California other than desert areas) indicated a record 15.2 million tons, 15 percent above 1978/79. Larger crops are currently expected for all citrus except grapefruit and lemons. The expected larger Florida orange crop, combined with a substantially larger carryover of frozen orange concentrate in prospect, is expected to weaken processing orange prices. Larger supplies of fresh oranges from California, along with larger Florida orange supplies, will result in lower prices for fresh markets.

The September 1 forecast for almond and walnut crops is for a record production. The 1979 pecan crop is forecast at 250 million pounds, slightly smaller than last year, while filbert production in Oregon and Washington is forecast at 10,500 tons, 25 percent less than last year's crop. Opening prices for almonds were moderately higher than a year ago. Export demand will be strong as Spain and Italy expect sharply smaller almond crops. Prices for pecan and walnuts are likely to be below year-earlier levels, but filbert prices are expected to be firm.

Land Values, Inflationary Expectations And Cash Flow Feasibility Of Land Purchases¹

Concerns about past and future increases in farmland values have commonly taken the form of three interrelated questions: (1) Are land values unreasonably high and likely to fall? (2) To what extent do current land values reflect expectations of continued inflation? and (3) Can people afford to buy land when the income return on land purchased is much less than the interest paid on borrowed funds? In this section, each of these questions is examined.

A Decline in Land Values?

A number of people have suggested the possibility of a major decline in land values. A major decline in asset values can occur under several conditions. First, asset values could fall because of a sharp and sustained drop in income from the asset. Alternatively, income returns to assets could remain relatively stable, but past price increases resulting from speculative fever could be wiped out. Examples of this phenomenon are not uncommon in the stock market. Price increases not justified by growth in returns are the underlying cause.

To assess the potential for a decline in land values, the rates of growth in land values are compared with the growth in returns to land² (table 1). On average, the growth in nominal and real returns to land exceeded the increase in land values from 1960 through 1974. However, the average increase in land values from 1975 through 1978 was substantially higher than the average growth rate in returns to land values. This has caused considerable concerns about "overpriced" land. If the lower income projected for 1980 holds true, this concern is likely to heighten.

Over the entire period of 1960-78, the growth in income has been well above the growth in land

values. And years in which the growth in returns to land were negative (1964 and 1967) showed substantial capital gains. The rationale for this is that land is normally considered a long-term investment. Land values are determined in part by the *expected* growth rate in income. The wide fluctuations in the growth rates on returns to land are likely to lead to expectations that are based on longer-term trends, and not simply 1 or 2 years *actual* growth rates. However, a *sustained* drop in returns to land would likely lead to lower expectations and a lower price for land.

Why did the growth rate in land values from 1960 to 1978 fail to keep pace with the growth in returns to land? At least two explanations appear plausible. *First*, the wide fluctuations in growth in returns to land suggest that the income returns to land are quite risky. It is well documented that investors demand a "risk premium" for risky investments. *Second*, if the income return to land grows, but the discount rate also increases, then land values will rise less rapidly than the increase in income. And nominal discount rates are likely to rise with inflation rates in the general economy.

Are Inflationary Expectations Bid Into Land Values?

The term "inflationary expectations" is used here to denote an expectation that both the returns to land and land values will continue to grow in the future. To determine the extent to which such inflationary expectations are bid into land values, we can compare estimates of land values in the absence of and in the presence of such expectations using net present value calculations.

In the absence of inflationary expectations, a method of estimating the per acre value of farmland is the simple capitalization formula:

$$NPV = A / i$$

where: NPV is the net present value of an acre of land

A is the annual net after tax return per acre

i is the after-tax discount rate

The net present values of an acre of farmland for different values of A and i are illustrated in table 2.

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²For a somewhat similar analysis see: Melichar, Emanuel "Capital Gains Versus Current Income in the Farming Sector," paper presented at the AAEA meeting, Pullman, Washington, August 1979.

Table 1—Nominal and Real Capital Gains on Land and Return to Investment in Land

Year	Capital Gains on Farmland		Rate of Growth in Income Returns to Land ^b	
	Nominal	Real ^a	Nominal Returns ^c	Real Returns ^a
Percent				
1960	1.69	.09	37.36	35.21
1961	5.19	4.18	20.06	18.85
1962	4.63	3.51	10.06	9.17
1963	6.02	4.81	0.93	-0.21
1964	6.30	4.99	-11.93	-13.06
60-64 Avg.	4.76	3.51	11.30	9.99
1965	7.89	6.17	56.63	53.97
1966	6.47	3.61	12.63	9.50
1967	6.70	3.82	-18.60	-20.88
1968	5.84	1.64	.01	-4.01
1969	3.94	-1.43	22.78	16.50
65-69 Avg.	6.17	2.76	14.69	11.02
1970	4.23	-1.69	2.27	-3.44
1971	8.11	3.81	3.41	-.86
1972	12.30	9.00	48.03	43.31
1973	23.50	17.27	101.02	89.23
1974	12.91	3.22	-23.90	-31.42
70-74 Avg.	12.21	7.00	26.17	19.36
1975	13.70	4.56	-7.15	-14.92
1976	16.55	10.78	-26.17	-30.19
1977	9.02	2.57	4.97	-1.39
1978	12.25	4.58	48.19	37.65
75-78 Avg.	12.88	5.62	4.96	-2.21
60-78 Avg.	8.80	4.50	14.77 ^d	10.16 ^d

^aNominal values adjusted for changed in the Consumer Price Index. ^bFigures reported are based upon USDA estimates of return to "production assets", as reported in issues of Balance Sheet of the Farming Sector, ESCS, USDA. Land is the major component of farm production assets. ^cReturns to both debt and equity capital. ^dPercentage growth figures are based upon year to year changes. If, instead, one estimates the average percentage growth rate using a semilog equation, then growth rates for nominal returns over the 1960-78 period are 9.79 percent, and real returns are 5.09—both slightly above the average nominal (8.80) and real (4.50) capital gains rates.

Table 2—Net present values per acre of farmland based upon the simple capitalization formula.

Annual Net After-Tax Return Per Acre (A)	After-Tax Discount Rate (i)				
	2%	4%	6%	8%	10%
(Dollars per acre)					
20	\$ 1,000	\$ 500	\$ 333	\$ 250	\$ 200
40	2,000	1,000	667	500	400
60	3,000	1,500	1,000	750	600
80	4,000	2,000	1,333	1,000	800
100	5,000	2,500	1,667	1,250	1,000

Using the simple capitalization formula, land values in most areas of the country are at a level that suggests an after-tax discount rate of between 2 and 4 percent. However, a discount rate should reflect a rate that could be achieved by the investor in his next best investment alternative. Clearly, farmland owners can achieve more than a 2- to 4-percent return on many nonfarm investments. However, if one accounts for inflationary expectations and the effects of financing, the values reported in table 2 may change substantially (table 3).

In panel A of table 3, net present values are calculated under the assumption that the return to land will grow at the rate of 5 percent annually, while land values will increase at the rate of 4 percent annually. Using a \$80 net after tax cash flow per acre and a 6-percent discount rate, the net present value of an acre of land is \$3,242. But as shown in table 2, a 6-percent discount rate and an \$80 net after-tax cash return per acre generates a net present value estimate of only \$1,333 per acre. Hence, it is apparent that inflationary expectations have an important influence on land values. If inflationary expectations are consistent with those in panel A, then the current farmland values in most areas of the country are about consistent with a 6-percent discount rate. However, discount rates

of 9 percent and above give values well below current prices.

Values in panel B are calculated under higher levels of inflationary expectations than those in panel A. In most areas of the country, farmland values for the inflationary expectations reflected in panel B are consistent with a discount rate of between 9 and 12 percent. A discount rate of 15 percent appears to give land values which are below currently observed levels.

Inflationary expectations reflected in panel C are about comparable to those experienced over the 1960-78 period (see table 1). Discount rates in the range of 12-15 percent give land values about comparable to currently observed levels.

The information presented in table 3 suggests that there is a wide range of inflationary expectations that could justify current land values. But the crucial factor is the relationship between inflationary expectations and the discount rate. Current land values suggest that the discount rate is above the expected inflation rate in land values by 2-3 percentage points. Discount rates outside this range appear to give land values which are unrealistic. Seen in this light, it is clear that inflationary expectations and the discount rate tend to move together. And while inflationary expectations are an important component of land

Table 3--Net present values per acre of land for alternative levels of annual net after income tax cash flow, inflation rates of land, and discount rates:^a

If you expect:			Price you can pay per acre to get a return of:			
An annual net after income tax cash flow per acre of:	An annual rate of growth in net after income tax cash flow of:	An annual rate of inflation in land value of:	6 percent after income taxes	9 percent after income taxes	12 percent after income taxes	15 percent after income taxes
PANEL A						
\$ 20	5%	4%	\$ 811	\$ 513	\$ 384	\$ 312
40	5%	4%	1,621	1,026	768	624
60	5%	4%	2,432	1,540	1,153	936
80	5%	4%	3,242	2,053	1,537	1,248
100	5%	4%	4,052	2,566	1,921	1,560
PANEL B						
\$ 20	8%	7%		1,153	637	450
40	8%	7%		2,306	1,273	900
60	8%	7%		3,458	1,910	1,350
80	8%	7%		4,611	2,547	1,800
100	8%	7%		5,764	3,184	2,250
PANEL C						
\$ 20	10%	9%			1,075	623
40	10%	9%			2,150	1,246
60	10%	9%			3,224	1,869
80	10%	9%			4,299	2,492
100	10%	9%			5,374	3,115

^aCalculations are based upon the assumption that the buyer is in the 28 percent tax bracket, has a 30 year planning horizon, and finances the purchases with a 30 percent down payment and a loan for 30 years at 10 percent interest.

value, they do not appear to be out of line with the discount rate.

Can People Afford To Buy Farmland?

USDA estimates show that the annual income return to farm production assets has averaged just over 5 percent since 1970. With current interest rates on real estate loans at 10-11 percent, there is considerable concern about the cash flow feasibility of land purchases. For example, if one paid the prices per acre identified in table 3, would the returns be sufficient to make loan payments?

In table 4, we identify on a per acre basis, the first year cash surplus or deficiency in making loan payments on a 70-percent loan for 30 years at 10 percent interest. The purchase prices are assumed to be the net present values identified in table 3. A negative value (deficiency) implies the return per acre of land is not sufficient to make the loan payment. A positive value (surplus) implies the return to land is more than sufficient to make the loan payment. In only one case (15-percent discount rate and a 5-percent growth in annual income) is there a surplus. And as shown previously, the land values associated with that set of assumptions is unrealistically low in today's land market.

For land values that are consistent with today's land market, there may be a substantial cash deficiency in meeting the loan payment for a number of years. For example, if one pays \$3,242 per acre for land that is expected to generate an \$80 per acre return growing at the rate of 5 percent, the first year deficiency on a 70-percent loan for 30 years at 10-percent interest is \$97.20 per acre (table 4). If income grows at the rate of 5 percent per year, the deficiency will be removed in 19 years. Notice that for higher inflationary expectations, the cash deficiency per acre gets larger, although the length of time to remove the deficiency gets shorter.

The implications of these cash flow deficiencies are apparent. Purchasers of farmland must have substantial sources of cash other than from the income generated by the land being purchased. This cash may come from other farm income, from off-farm income, or from financial reserves of the purchaser. Farm operators who are well established and nonfarm investors are probably the best able to provide the funds financially needed. In contrast, young operators may find it very difficult to accumulate cash for a downpayment. Even if they do, there is still the problem of having sufficient cash from other sources to meet the loan payments during the years of deficient earnings.

Table 4—First year cash surplus or deficiency per acre for a 70 percent loan for 30 years at 10 percent interest^a

If you expect:		The first year cash surplus or deficiency on a 70 percent loan for 30 years at 10 percent interest ^a			
An annual net after tax cash flow of:	An annual growth rate in after tax cash flow of:	An annual rate of inflation in land value of:	For values based upon a 6% after tax return	For values based upon a 9% after tax return	For values based upon a 12% after tax return
PANEL A					
\$ 20	5%	4%	\$ -24.3019	\$ -8.05 ⁸	\$ -1.00 ²
40	5%	4%	-48.6019	-16.10 ⁸	-1.99 ²
60	5%	4%	-72.9019	-24.15 ⁸	-2.99 ²
80	5%	4%	-97.2019	-32.20 ⁸	-3.99 ²
100	5%	4%	-121.4919	-40.26 ⁸	-4.98 ²
PANEL B					
\$ 20	8%	7%	-43.01 ¹⁶	-14.80 ⁸	-4.59 ³
40	8%	7%	-86.01 ¹⁶	-29.60 ⁸	-9.18 ³
60	8%	7%	-129.02 ¹⁶	-44.40 ⁸	-13.77 ³
80	8%	7%	-172.03 ¹⁶	-59.20 ⁸	-18.37 ³
100	8%	7%	-215.04 ¹⁶	-74.00 ⁸	-22.96 ³
PANEL C					
\$ 20	10%	9%		-38.75 ¹²	-14.05 ⁶
40	10%	9%		-77.49 ¹²	-28.11 ⁶
60	10%	9%		-116.24 ¹²	-42.16 ⁶
80	10%	9%		-154.98 ¹²	-56.21 ⁶
100	10%	9%		-193.73 ¹²	-70.26 ⁶

^a Calculations are based upon the assumption that the buyer is in the 28 percent tax bracket and has a 30 year planning horizon. Superscript numbers indicate the number of years before deficiency will be removed.

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